TRANSCRIPT OF RECORD.

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1920.

No. 273.

WEBER ELECTRIC COMPANY, PETITIONER,

vs.

E. H. FREEMAN ELECTRIC COMPANY.

ON WRIT OF CERTIORARI TO THE UNITED STATES CIRCUIT COURT OF APPEALS FOR THE THIRD CIRCUIT.

PETITION FOR CERTIORARI FILED MARCH 12, 1920.

CERTIORARI AND RETURN FILED MAY 18, 1920.

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a *Certified Copy of Record and Proceedings.*

United States Circuit Court of Appeals for the Third Circuit.

E. H. FREEMAN ELECTRIC COMPANY, Appellant, Cross-Appellee,

against

WEBER ELECTRIC COMPANY, Appellee, Cross-Appellant.

Record on Appeal and Cross-Appeal.

On Appeal from the District Court of the United States for the District of New Jersey.

b United States District Court, District of New Jersey.

In Equity.

WEBER ELECTRIC COMPANY

vs.

E. H. FREEMAN ELECTRIC COMPANY.

On United States Letters Patent No. 743,206.

Docket Entries.

April	27,	1909	Bill filed.
"	"	"	Subpœna issued, returnable June 7, 1909.
"	"	"	Subpœna returned served, and filed.
June	7,	"	Appearance of Erwin E. Marshall, for defendant filed.
July	5,	"	Answer filed.
Aug.	2,	"	Replication filed.
April	12,	1913	Order as to Testimony and Affidavit filed.
May	23,	"	Stipulation, Affidavit and Order as to testimony filed.
July	22,	"	Objection and Cross Interrogatories filed.
Aug.	20,	"	Stipulation and Order extending time to take rebuttal proofs filed.
June	27,	"	Stipulation, Affidavit and Order extending time to take testimony filed.
July	2,	"	Notice, Affidavit and Motion for leave to take testimony abroad filed.
"	7,	"	Hearing on motion for leave to take testimony, &c. Commission to issue.
"	"	"	Order for Commission to take testimony abroad filed.

Sept.	4,	1913	Order granting leave to file amended answer and Amended Answer filed.
"	3,	"	Commission issued.
"	"	"	Letters Rogatory issued.

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Oct.	6,	1913	Order extending time for taking testimony filed.
Nov.	11,	"	Commission returned executed and filed.
	29,	"	Order as to Testimony filed.
Feb.	26,	1915	Notice, Motion to amend answer, &c., proposed amendment to answer and affidavits filed.
Mar.	1,	"	Hearing on Motion to amend Answer and for leave to take further testimony.
"	"	"	Order granting leave to amend and to take further testimony filed.
"	4,	"	Amendment to Answer filed.
"	17,	"	Depositions on behalf of defendant filed.
April	29,	"	Defendant's Proofs filed.
Nov.	3,	"	Cause placed on Calendar.
July	13,	1916	Final Hearing. Decision reserved.
Nov.	6,	1918	Memorandum filed.
"	20,	"	Notice of Motion for settlement of Interlocutory Decree filed.
"	"	"	Hearing on Motion for settlement of Interlocutory Decree. Ordered that Injunction be suspended upon defendant giving sufficient bond.
"	"	"	Interlocutory Decree filed.
Dec.	5,	"	Assignment of Errors filed.
"	"	"	Petition of Appeal filed.
"	"	"	Order allowing appeal filed.
"	"	"	Bond on Appeal filed.
"	"	"	Citation issued.
"	6,	"	Injunction issued.
"	11,	"	Injunction returned served December 9, and filed.
"	23,	"	Hearing on motion to amend Interlocutory Decree.
"	"	"	Interlocutory Decree as Amended filed.

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Jan.	25,	1919	Notice and Motion for Supersedeas filed.
"	27,	"	Hearing on motion for Supersedeas. Ordered that Supersedeas be allowed on giving bond for $4,000.
Dec.	9,	1918	Citation returned, service acknowledged. Copy filed.
Jan.	4,	1919	Order extending time to file transcript. Copy filed.
"	9,	"	Assignments of Error on Appeal of Complainant filed.
"	"	"	Petition for Appeal and Order allowing Appeal filed.

Jan. 27, 1919 Order waiving Rule 75 filed.
" " " Stipulation and Order as to Record on Appeal and Waiving Citation filed.

1 United States Circuit Court, District of New Jersey.

In Equity. On Patent No. 743,206.

WEBER ELECTRIC COMPANY

vs.

E. H. FREEMAN ELECTRIC COMPANY

Bill of Complaint.

To the Honorable the Judges of the Circuit Court of the United States in and for the District of New Jersey:

Weber Electric Company, a corporation organized under the laws of the State of New York, a citizen of said State, having its principal place of business at the City of Schenectady, in said State, brings this its Bill of Complaint against E. H. Freeman Electric Co., a corporation organized under the laws of the State of New Jersey, a citizen of said State, located and doing business at the City of Trenton, in said State and District of New Jersey.

And thereupon your orator complains and says:

1. That heretofore, and before the 10th day of December, 1902, one August Weber, Sr., was the original and first inventor of a certain new and useful improvement in Incandescent Electric Lamp-Sockets not known or used by others in this country before his invention or discovery thereof; and not patented, or described
2 in any printed publication in this or any foreign country before his invention or discovery thereof, or more than two years prior to his application for letters patent therefor; and not in public use or on sale in this country, or elsewhere, for more than two years prior to his said application; no application for a patent for said invention having been filed in any foreign country, and said invention not having been abandoned.

2. That he, so being the inventor of said improvement, made application for letters patent therefor, to the Commissioner of Patents, in accordance with the then existing laws of the United States and complied with the conditions and requirements of said laws in all respects, including the payment of the fees required by said laws.

3. That thereafter, on the 3rd day of November, 1903, letters patent of the United States No. 743,206, signed, sealed and executed in due form of law, and bearing date November 3, 1903, were issued upon said application to said Weber, as sole owner thereof, whereby there was secured to him, his heirs and assigns, for the term of seventeen years from the 3rd day of November, 1903, the

full and exclusive right of making, using and vending the said improvement throughout the United States and territories thereof, as by a certified copy of said letters patent in Court to be produced will more fully appear.

4. That thereafter, by assignments in writing duly executed, acknowledged and delivered, said Weber sold, assigned and transferred unto your orator the whole right, title and interest in and to said letters patent; and all claims for damages for infringement of said letters patent since the date thereof, whereby your
3 orator became and now is the sole and exclusive owner of said letters patent, and of the invention therein described and claimed, and of all rights and privileges granted and secured, or intended to be granted and secured, by said letters patent since the date thereof, and is entitled to be protected in the enjoyment of the same, and is entitled to recover for past infringement of the same, as will more fully appear by said assignments or duly proven copies thereof in Court to be produced.

5. That your orator has been to great expense in developing and introducing said invention, and for the purpose of carrying on the business of manufacturing and selling said Incandescent Electric Lamp-Sockets, and making the same profitable to itself and useful to the public, and that the value of said invention has been universally conceded and that said patent has been respected by the trade, except for the unlawful acts of said defendant complained of, and that but for the infringement herein complained of, your orator would be in the undisturbed possession and enjoyment of the exclusive privilege secured by the said letters patent, and in receipt of the profits of the same, and your orator believes that it will realize and receive large gains and profits therefrom if infringement by said defendant and its confederates shall be prevented.

6. That as it is informed and believes, since the date of said letters patent, both before and since said assignments to your orator, and before the commencement of this suit, the defendant herein named, well knowing all the facts hereinbefore set forth, unlawfully and wrongfully and against the will of your orator, and in violation of your orator's rights, and contriving to
4 injure your orator and deprive it of the benefits which might otherwise accrue to it from said invention, has been and now is, and threatens to continue infringing said letters patent within the District of New Jersey, aforesaid, in said City of Trenton and elsewhere, by making, using and selling Incandescent Electric Lamp-Sockets containing, and made in accordance with, the invention described and claimed in said letters patent, all of which acts and doings are contrary to equity and good conscience, and tend to the manifest injury of your orator in the premises.

7. That as your orator is informed and believes said defendant has been duly notified of its said infringement of said letters patent and of your orator's rights thereunder, and requested to re-

frain and desist from said infringement, but that said defendant has nevertheless continued said infringement after such notice.

8. Forasmuch as your orator can have no adequate relief, except in this Court, and to the end, therefore, that the defendant may, if it can, show why your orator should not have the relief hereby prayed, and may make a full disclosure and discovery of all the matters aforesaid, and according to the best and utmost of the knowledge, remembrance, information and belief of its officers and directors, full, true, direct and perfect answer make to the matters hereinbefore stated and charged, but not under oath, an answer under oath being hereby expressly waived; and that the defendant may be decreed to account for and pay over the income or profits thus unlawfully derived from the violation of said rights;

your orator prays that your Honors may grant a writ of in-
5 junction issuing out of and under the seal of this Honorable Court, perpetually enjoining and restraining the said defendant, its officers, directors, clerks, attorneys, agents, servants and workmen from any further construction, sale or use in any manner of said patented improvement or any part thereof in violation of your orator's rights as aforesaid, and that the infringing devices now in possession or use of the said defendant may be destroyed or delivered up to your orator for that purpose;

And that your Honors, upon the rendering of the decree above prayed, may assess or cause to be assessed, in addition to the profits to be accounted for by the defendant as aforesaid, the damages your orator has sustained by reason of such infringement, and that your Honors may increase the actual damages so assessed to a sum equal to three times the amount of such assessment under the circumstances of the wilful and unjust infringement of said defendant set forth herein.

9. And your orator further prays that a provisional or preliminary injunction be issued restraining the said defendant from any further infringement of said letters patent pending this cause, and for such other and further relief as the equity of the case may require, and to your Honors may seem meet.

May it please your Honors to grant unto your orator not only a writ of injunction conformable to the prayer of this bill, but also a writ of subpœna of the United States of America, directed to the said E. H. Freeman Electric Co., commanding it on a day certain to appear and answer unto this bill of complaint, and to

abide and perform such order and decree in the premises as
6 to the Court shall seem proper and required by the principles of equity and good conscience.

[CORPORATE SEAL.] WEBER ELECTRIC CO.,
By AUGUST WEBER, JR.,
Vice-President.

FRANK C. CURTIS,
Solicitor and of Counsel for Complainant.

UNITED STATES OF AMERICA,
State of New York,
County of Schenectady, ss:

August Weber, Jr., being duly sworn, deposes and says that he is the Vice-President of Weber Electric Company, the complainant named in the foregoing bill of complaint; that he has read the said bill and knows the contents thereof; that the same is true of his own knowledge, except as to the matters therein stated to be alleged upon information and belief, and as to those matters he believes it to be true; and that he verily believes August Weber, Sr., to be the first, original and sole inventor of the improvements in Incandescent Electric Lamp-Sockets set forth in Letters Patent of the United States, No. 743,206, referred to in said bill of complaint.

AUGUST WEBER, JR.

Subscribed and sworn to before me this 23rd day of April, 1908.

J. LESLIE SCHOOLCRAFT,
[L. S.] *Notary Public.*

7 Circuit Court of the United States, District of New Jersey.

In Equity.

WEBER ELECTRIC COMPANY

vs.

E. H. FREEMAN ELECTRIC CO.

On Patent No. 743,206.

The Replication of Weber Electric Company, Complainant, to the Answer of E. H. Freeman Electric Co., Defendant.

This repliant saving and reserving unto itself now and at all times hereafter, all and all manner of benefit and advantage of exception which may be had or taken to the manifold insufficiencies of the said answer, for replication thereunto says that it will aver, maintain and prove its said Bill of Complaint to be true certain and sufficient in law to be answered unto, and that the said answer of the said defendant is uncertain, untrue and insufficient to be replied unto by this repliant. Without this that any other matter or thing whatsoever in the said answer contained, material or effectual in the law to be replied unto, and not herein and hereby well and sufficiently replied unto, confessed or avoided, traversed or denied is true. All which matters and things this repliant is and will be ready to aver, maintain and prove as this Honorable Court shall direct, and humbly prays as in and by its said Bill it has already prayed.

FRANK C. CURTIS,
Complainant's Solicitor.

8 United States Circuit Court, District of New Jersey.

In Equity.

WEBER ELECTRIC COMPANY

vs.

E. H. FREEMAN ELECTRIC CO.

On Patent No. 743,206.

Testimony on behalf of Complainant taken under the 67th Rule in Equity as amended at the office of Frank C. Curtis, on the 27th day of September, 1909, before William W. Morrill, a Notary Public, before whom it is stipulated that testimony may be so taken with the same force and effect as though said William W. Morrill had been duly appointed a Special Examiner for that purpose, and an order to this effect may be entered without notice, said testimony being taken pursuant to the annexed notice.

Present:

Frank C. Curtis, Counsel for Complainant.

David P. Wolhaupter, Esq., Counsel for Defendant.

Counsel for Complainant offers in evidence a certified copy of the certificate of incorporation of the Complainant, Weber Electric Company, and the same is marked "Complainant's Exhibit, Certificate of Incorporation."

Counsel for Complainant offers in evidence original Letters Patent of the United States No. 743,206, dated November 3, 1903, granted to August Weber, Sr., for Incandescent Electric Lamp-Sockets.

9 It is stipulated by and between counsel for the respective parties that either party may use in evidence official printed copies of United States and foreign patents with the same force and effect as certified copies thereof subject to correction upon comparison with official records or certified copies at the demand of either party.

Pursuant to the foregoing stipulation a copy of said original letters patent No. 743,206, is offered in evidence and marked "Complainant's Exhibit, Patent in suit."

Counsel for Complainant offers in evidence an assignment in writing dated and acknowledged February 1, 1909, by August Weber, Sr., with the certificate of recording thereto annexed, and the same is marked "Complainant's Exhibit, Assignment of Patent in suit."

It is stipulated that a printed or typewritten copy of said assignment may be substituted for and used in place of and with the same force and effect as said original assignment, subject to production of said original in Court if requested.

Pursuant to said stipulation a copy of said assignment is substituted for said original and marked "Complainant's Exhibit, Assignment of Patent in suit."

Counsel for Complainant offers in evidence an assignment dated and acknowledged April 23rd, 1909, by August Weber, Sr., of damages and profits. By agreement and stipulation of Counsel a copy is substituted for said last mentioned assignment, to be used with the same force and effect as original thereof, subject to the production of said original in Court upon request, said copy being marked "Complainant's Exhibit, Assignment of Damages and Profits."

10 It is stipulated by Counsel for the Defendant that subsequently to the granting of the patent in suit, and prior to the commencement of this action, the defendant manufactured and sold Incandescent Electric Lamp-Sockets, within the State and District of New Jersey, the same in all respects as a socket now produced, and marked "Complainant's Exhibit, Defendant's Keyless Socket." The exhibit so marked is offered in evidence by counsel for Complainant.

It is stipulated by Counsel for the Defendant that subsequently to the granting of the patent in suit, and prior to the commencement of this action, the defendant manufactured and sold Incandescent Electric Lamp-Sockets, within the State and District of New Jersey, the same in all respects as a socket now produced and marked "Complainant's Exhibit, Defendant's Key Socket." The exhibit so marked is offered in evidence by counsel for Complainant.

11 GEORGE A. MOSHER, being called on behalf of the Complainant and first duly sworn, testifies as follows:

Examined by Mr. Curtis:

Q. 1. What is your name, age, residence and occupation?

A. George A. Mosher, Troy, N. Y., 63 years of age, attorney and counselor-at-law, and solicitor of patents.

Q. 2. State your experience and qualifications as a mechanical expert?

A. I have made patents and patent law a speciality continuously for more than 25 years, during which time I have almost daily had occasion to examine patents, including specifications, drawings and claims, and frequently compared them with various mechanisms with a view to determining the scope of claims. During the same period I frequently acted as a mechanical expert in infringement suits pending in the Circuit Courts.

Q. 3. Have you examined and do you understand the patent in suit No. 743,206?

A. I have and do.

Q. 4. Have you examined and do you understand the construction and operation of Complainant's Exhibits, Defendant's Key Socket and Defendant's Keyless Socket?

A. I have and do.

Q. 5. Please compare said two exhibit sockets with said patent in suit, and state your conclusions as to whether or not said sockets severally are the same in construction and operation as the socket shown and described in said patent, and particularly claimed in the first four claims thereof?

12 By Mr. Wolhaupter: The question, in the form put, is objected to as calling for a direct conclusion of law.

Question withdrawn.

Q. 6. Please compare said two exhibit sockets with said patent in suit, and state what features, if any, you find in the several exhibit sockets which are the same as, or like, those of the socket shown and described in said patent and particularly claimed in the first four claims thereof?

A. Referring to Complainant's Exhibit Defendant's Keyless Socket, I find the essential features shown and described in the patent in suit and pointed out in the first four claims of the patent, contained in this exhibit. Referring to the first claim of the patent in suit, which reads as follows:

"In a device of the class described, the combination with a pair of members comprising a sheet-metal sleeve having a slotted end, and introverted tongues, and a cap adapted to telescopically receive the slotted end of said sleeve, said members having interengaging parts adapted to automatically interlock with a snap action when telescopically applied to each other, and to be released by compression of said sleeve; of an insulating base for electrical fittings loosely enclosed within said sleeve in engagement with said tongues, substantially as described."

The exhibit is a device of the class described, being an incandescent electric lamp-socket having telescopically connecting cap and sleeve members. It has a pair of members comprising
13 a sheet-metal sleeve having a slotted end and introverted tongues, and a cap adapted to telescopically receive the slotted end of said sleeves, said members have interengaging parts adapted to automatically interlock with a snap action when telescopically applied to each other, and to be released by compression of said sleeve, as described in the specification of the patent. The exhibit also has an insulating base for electrical fittings loosely enclosed within said sleeve in engagement with said tongues, formed by introverting a portion of the sleeve, substantially as described in the patent in suit.

The second claim reads as follows:

(2) "In a device of the class described, the combination with a base of insulating material having a peripheral recess; and an incandescent-lamp support mounted thereon; of an enclosing case therefor comprising in part a sheet-metal sleeve having a portion of its wall introverted to occupy said base-recess, substantially as described."

The exhibit is a device of the class described for the seasons stated in connection with claim 1. It contains a base of insulating material having a peripheral recess, and an incandescent-lamp support mounted thereon, an enclosing case therefor comprising in part a sheet-metal sleeve having a portion of its wall introverted to occupy said base-recess, substantially as described in the patent in suit.

14 Referring to claim 3 which reads as follows:

(3) "In a device of the class described, the combination with a base of insulating material having a peripheral recess; and a screw-socket fixedly mounted thereon; of an enclosing case therefor comprising in part a sheet-metal sleeve having a portion of its wall introverted to occupy said base-recess, and prevent a relative rotative movement between said sleeve, base and socket, substantially as described."

The exhibit is a device of the class described for the reasons above stated. It contains a base of insulating material having a peripheral recess, and a screw-socket fixedly mounted thereon. It has an enclosing case for the base and socket comprising in part a sheet-metal sleeve having a portion of its wall introverted to occupy said peripheral recess in the insulating base, and prevent a relative rotative movement between said sleeve, base and socket, substantially as described in the patent in suit.

Referring to the fourth claim which reads as follows:

(4) "In a device of the class described, and in combination a pair of members comprising a sheet-metal sleeve having a slotted end, and a sheet-metal cap adapted to telescopically receive the slotted end of said sleeve, one of said members being provided with a recess, and the other having a correspondingly-located transverse slit, and the wall on one side thereof displaced to form a projection beveled or inclined toward said recessed member and terminating abruptly at said slit, whereby said members are adapted to automatically

15 interlock with a snap action when telescopically applied to each other, and to be released by manual compression of said slotted sleeve, substantially as described."

The exhibit is a device of the class described for the reasons above stated. It contains a pair of members, one of which consists of a sheet-metal sleeve having a slotted end and the other member of the pair consists of a sheet-metal cap adapted to telescopically receive the slotted end of said sleeve, one of said members being provided with a recess, and the other having a correspondingly located transverse slit with the wall on one side thereof displaced to form a projection beveled or inclined toward said recessed member, and terminating abruptly at said slit. Said members of the exhibit are adapted to automatically interlock with a snap action when telescopically applied to each other, and to be released by manual compression of said slotted sleeve, substantially as described in the patent in suit.

Referring to Complainant's Exhibit, Defendant's Key Socket.

find that it contains all the features referred to in my description of features contained in Complainant's Exhibit, Defendant's Keyless Socket, except the feature of a peripheral recess formed in the base of insulating material, and the introverted tongue in the slotted sheet-metal sleeve, adapted to enter said peripheral recess to prevent the rotation of the base within the sleeve. It is thought that the projecting stem of the key passing outwardly from the insulating base through the slot in the end of the sleeve would serve to prevent rotation of the base in this exhibit, as well as in similar devices having a projecting key for operating the switch-block.

The first three claims refer specifically to a peripheral recess and introverted portions of the shell adapted to enter the same. The fourth claim contains no reference to these features of the exhibit, keyless socket, but all of the features particularly pointed out in claim 4, and described in the patent in suit, are found in the exhibit, key socket.

All the features referred to by me in connection with Complainant's Exhibit, Defendant's Keyless Socket co-operate together in substantially the same manner, and produce substantially the same result, as the features shown and described in the patent in suit, and particularly referred to in the first four claims, respectively.

All the features referred to by me in connection with Complainant's Exhibit, Defendant's Key Socket co-operate together in substantially the same manner, and produce substantially the same result, as the features shown and described in the patent in suit, and particularly referred to in the fourth claim.

Recess.

Session resumed.

Cross-examination.

By Mr. Wolhaupter:

XQ. 7. Do I understand from the last sentence in your answer to Q. 2 that you have frequently given testimony as a mechanical expert in infringement suits pending before the Circuit Court?

A. I have.

XQ. 8. Have you had any particular training or experience which has specially qualified you to testify as an expert in relation to the subject matter of this suit? If so, kindly indicate to what extent?

A. I can answer that generally that I have had a general training nearly all my life. I spent several years in preparing for college and also spent four years in college, and during that time I was particularly interested in mechanical subjects and mathematics. I have made application for and obtained patents for inventions, one of which was before I entered upon any professional career. I was engaged in the general practice of law for twelve or thirteen years

before making patents and patent law a specialty. My taste and general knowledge of mechanical subjects led me into the patent branch of the profession, and in 1882 I made the practice of patent law and soliciting of patents a specialty and after that refused all other practice. For a number of years after that I frequently acted as mechanical expert, and have done so since. I have investigated and studied many arts and have had to do with manufactures of sheet-metal in a professional way. I do not at this moment recall any particular case involving just the points involved in this case and if this construction was novel at the time the application was made I could have had no experience or instruction on the exact points involved, prior to that year. Since that date my experience and instruction or training as to electric lamp-sockets has
18 been only in connection with the articles specified in the patent in suit, and other patents for incandescent electric lamp sockets.

I was graduated from Dartmouth College in 1867.

X Q. 9. Have you ever before this date testified as an expert in a patent case relating to electrical incandescent lamp-sockets?

A. I have not.

X Q. 10. Are you a member of the firm of Mosher & Curtis, who appear as attorneys for August Weber, Sr., in the taking out of the patent in suit?

A. Yes, sir.

X Q. 11. I am correct in understanding, am I not, that you and Mr. Curtis, who is counsel for complainant, are still engaged in patent practice under the same firm name?

A. Yes, sir.

X Q. 12. Referring to claim 1 of the patent in suit, please state what reference numbers on the drawings you understand to designate the elements specified in the first clause of the claim, namely "a pair of members comprising a sheet-metal sleeve having a slotted end and introverted tongues, and a cap adapted to telescopically receive the end of said sleeve?"

A. In Figs. 1 and 2, the numeral 1 designates the sheet-metal sleeve, and 2, designates a cap. 15 designates the tongue. In Fig. 3, which represents a keyless socket, the sleeve is designated by number 17, and the cap by number 19, and the numeral 22 is employed to designate a tongue or tongues formed in the sleeve.

X Q. 13. Please refer by reference numeral to those parts of the structure shown in the patent in suit which correspond
19 to the parts referred to in claim 1 of said patent in the following language: "Said members having interengaging parts adapted to automatically interlock with a snap action when telescopically applied to each other."

A. In Figs. 1 and 2 such parts are designated by the numerals 13 and 14. And in Fig. 3 by the numerals 20 and 21.

X Q. 14. Please explain your understanding, in point of operation, of the expression "with a snap action when telescopically applied to each other," as employed in claim 1 of the patent in suit.

A. The interengaging parts on said members comprise edges

abutments so arranged that a movement of one of said members relatively to the other will cause such walls or abutments to yield relatively to each other, either one or both, until the walls reach a position in which the resiliency of the metal will cause such walls to abut, one upon the other, automatically and interlock.

X Q. 15. Referring to the same action, that is the snap action, what is your understanding of the expression, "when telescopically applied to each other," in its relation to that action?

A. I think it means that such action cannot take place until the members are telescopically applied to each other.

X Q. 16. Why do you say, "I think" that such is the case?

A. I should have said, and intended to say, it is my opinion.

X Q. 17. Do you undertake to interpret the expression "when the parts are telescopically applied to each other" to mean after the parts are telescopically applied to each other?

A. The action certainly cannot take place until after the members have been telescopically applied to each other.

X Q. 18. Referring to the construction of the socket shown and described in the patent in suit, is there any provision made for a relative rotation of the cap and sleeve members?

A. I do not find in the specification any mention of such a relative rotation of the case members, but I see nothing to prevent such a movement.

X Q. 19. Please explain in what way relative rotation of the cap and sleeve members will be permitted in the construction shown in the drawings of the patent in suit?

A. If the members are telescopically applied to each other with the projections, 14, at one side of the aperture, 13, the members could be given a relative rotation until the projections entered such apertures, which they would do, and automatically interlock with a snap action.

X Q. 20. You do not find, do you, anything in the patent in suit to bear you out in any such assumed operation?

A. I do.

X Q. 21. Please refer to the same.

A. The projections, 14, are shown in side elevation in Fig. 2, of the drawings, and in cross-section in Fig. 1. Also in Fig. 1, the interlocked position of the two sleeve members, the projection 14, projecting into the aperture 13, on the two opposite sides of the figures of the drawing, and the cap is described as being telescopically applied to the sleeve member. It is evident that the two members being made of sheet-metal are springy and elastic, and the sleeve members are provided with a slot, 12, in Fig. 2, and slot, 18, in Fig. 3, the latter slot being formed for the express purpose of permitting the wall of the sleeve to yield under pressure when desired to unlock the parts secured together by the automatic interlocking action. It is obvious therefore that the walls of the sleeve members would yield sufficiently to allow the cap to be applied telescopically to such member with the projections, 14, located intermediately of the apertures 13.

X Q. 22. Is it your opinion that the description contained in the

specification of the patent in suit describes a locking action between the cap and the sleeve members which is accomplished by a relative rotation of these members?

A. I do not find that the specification points out such a method of interlocking the two members. The specification states that the cap can be telescopically applied to the slotted end of the sleeve, "and when the apertures, 13, in the cap are brought opposite the respective projections, 14, on the sleeve, the parts will automatically interlock with a snap action" and a litle farther on the specification further states, "the connected members themselves thus provide a means whereby they are locked together, dispensing with the use of screws or other additional parts for that purpose." It is evident the principal object of the invention is to provide the members themselves with interlocking parts, and a manner of providing and operating such interlocking parts is shown. Just how those interlocking parts were arranged or what motion of one member relatively to the other should be employed to interlock the parts would not seem to be material. That the inventor so regarded the matter would seem to be also obvious from the wording of the claims, which are not limited to any particular location of the interlocking parts, or relative movement of the case members in securing the automatic interlocking with a snap action, the only limitation being as to the time of such snap action which must occur after the members have been telescopically applied to each other.

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X Q. 23. What is the relative direction of movement of the cap and sleeve members during the telescoping thereof?

A. I do not find any specified direction of movement in the specification, the only essential being that the parts shall be eventually brought into such position that the projections, 14, as shown in Fig. 2, shall enter the apertures, 13, shown in Fig. 1. The principal object to be obtained is to bring the interlocking parts into position of alinement or registration such that the snap action will cause them to automatically interlock, the snap action being due to the resiliency of the metal.

X Q. 24. It is pointed out at several places in the patent in suit that the cap and sleeve members are provided with interengaging parts adapted to automatically interlock with a snap action when telescopically applied to each other. What would you say in reply to the contention that this snap action is accomplished through and by the telescoping movement?

A. A telescoping movement is an essential preliminary to the snap action, the parts being so arranged that they cannot interlock before the telescopic action is completed, because they will not register with each other until the cap has been moved telescopically onto the sleeve to the limit of such movement, as is clearly apparent from the cross-sectional view shown in Fig. 1 of the drawings. The spring or snap action which secures the automatic interlocking occurs wholly after the telescopic action has been completed, and it is apparent from the drawings that such snap action could be made to take place with perfect efficiency if the cap were applied telescopically with the projections, 14, located intermediately of the

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apertures, 13, to the limit of the telescopic movement, and the cap afterwards rotated until the projections were made to register with the apertures, whereupon the snap action would take place to operatively and fully interlock the two case members.

Adjourned until Tuesday, September 28, 10:00 A. M.

Met pursuant to adjournment Tuesday, September 28th, at 10:00 A. M.

Appearances the same.

X Q. 25. Mr. Mosher, please state your definition of the term "telescopically," as employed in the patent in suit.

A. Commencing at line 35, page 1 of the printed specification of the patent in suit, I find the following:

"My invention is applicable to various telescopically connecting members, but is especially adapted for use in the telescopically
24 connecting cap and sleeve members of incandescent electric lamp-sockets, and I have illustrated in the drawings its use in such connection."

I also find, commencing at line 94, same page of the printed specification, the following:

"The cap, 2, is provided with apertures, 13, arranged to correspond with the position of the projections, 14, and adapted to receive said projections, respectively, when the parts are telescopically applied to each other. The sleeve being compressible and said projections beveled or inclined from the inner end of the sleeve toward their outer ends, whereat they terminate abruptly, the cap can be telescopically applied to the slotted end of the sleeve, and when the apertures, 13, in the cap are brought opposite the respective projections, 14, on the sleeve, the parts will automatically interlock with a snap action."

It is my opinion that the inventor in making the application for the patent in suit did not intend in the use of the word "telescopically" to limit the movements of the cap and sleeve relatively to each other to a longitudinal movement, that is, a movement along the axial line of the two members, but that he had in mind the usual movements of one or more sections of a telescope relatively to each other in opening or closing the same, it being well known that a rotary, as well as longitudinal or axial movement, is applied to a moving section relatively to another, which greatly facilitates the opening and closing movements of the telescope. Further-
25 more, the inventor must have had in mind the rotary as well as longitudinal movement of the sleeve and cap, when applied one to the other, when he made the statement found in the last few lines of the quotation from the specification before given, and which commence at the 102nd line of the first page of the specification, and state that the cap can be telescopically applied to the slotted end of the sleeve, and when the apertures, 13, in the cap are brought opposite

the respective projections, 14, on the sleeve, the parts will automatically interlock with a snap action.

There are only two projections shown on the sleeve, and only two apertures adapted to receive the projections shown on the cap, and it would frequently happen in sliding the cap upon the sleeve that the apertures in the cap would occupy intermediate positions between the projections on the sleeve, there being no guide to assist in applying the cap to the sleeve in such a manner that the apertures would register with the projections without a rotary movement of the cap and sleeve relatively to each other. To be sure of causing the projections and apertures to register, at the end of a longitudinal movement, and without any rotary movement, would require much care and frequently much time. If, however, the projections and apertures can be brought into registering position, wherein they will automatically interlock with a snap action by means of a rotary movement, the parts can be very quickly applied one to the other, and without any care as to causing the interlocking parts to register without a
26 rotary movement. As shown in the drawings of the patent, and as described therein, the cap when applied to the sleeve so that the apertures, 13, will register with the projections, 14, so as to interlock therewith, may be given a rotary movement at the same time that it is given a longitudinal movement, or at the completion of its longitudinal movement. In either case it may be truthfully said that the cap has been telescopically applied to the sleeve. It is also true that the projections, 14, will not enter the apertures, 13, "to automatically interlock with a snap action" until the completion of such movement or movements.

X Q. 26. It is your understanding then that the usual movements of one or more sections of a telescope, during the telescoping action, are a rotary movement, as well as a longitudinal movement?

A. It is my opinion that the usual method of opening or closing a telescope is to impart to one or more of the sections a rotary as well as longitudinal movement.

X Q. 27. What is the function of the rotary movement in the opening and closing of a telescope?

A. The sections do not usually fit perfectly, one within another, and there are certain points which contact with each other with sufficient force to afford considerable frictional resistance. If this resistance is overcome by manual pressure applied along the axial line of the sections, a jerky movement is imparted to the sections, which may move very freely after passing the obstructive point, attended by the danger of breaking the parts if very considerable force has been applied. By imparting a slight rotary movement to the
27 sections, the relative positions of the contacting points which afforded the frictional resistance are changed and the resistance largely or wholly overcome by such rotary movement. By imparting to a moving section a slight continuous rotary movement, as well as a longitudinal movement, the sections can be moved relatively to each much more steadily and easily and without danger to the instrument.

X Q. 28. Then, in a telescope, the rotary movement you have referred to is simply a friction-overcoming movement, is it not?

A. If there was no friction between the relatively moving sections, there would be no necessity for the rotary movement.

X Q 29. Is it your understanding that the term "telescoping" as employed in the mechanical arts, is intended to include both a rotary and a longitudinal movement?

A. Not necessarily.

X Q. 30. Would you say, strictly speaking, that a telescoping movement includes a rotary movement?

A. I hardly think I understand the meaning of the term strictly speaking as employed in the question.

X Q. 31. Is it not a fact that the telescoping of two tubular members is accomplished solely by a movement longitudinally thereof, that is, a movement along the axial line of the two members?

A. Such a movement would be a telescopic movement, whether the rotary movement was imparted to one of the members or not.

X Q. 32. But a rotary movement forms no part of a telescopic movement, does it, that is, in the sense of contributing in any
28 way to the telescoping action per se?

A. As I have stated before, I think there are some cases where the rotary movement does contribute, and assist, the longitudinal movement. In the case at bar it is impossible for me to say positively whether the inventor in the patent in suit considered the rotary movement to be a part and essential feature of the telescopic movement referred to by him in the specification, but it seems to me immaterial whether he did or not for the reason that unless some resistance was encountered in applying the cap to the sleeve by a longitudinal movement, the rotary movement could be wholly imparted to the cap at the end of the longitudinal movement to cause the interlocking parts to register with each other, but, if the longitudinal movement was greatly resisted by frictional contact of the two members, one with the other, this resistance might be considerably reduced by a rotary movement imparted to the cap. Furthermore, if, during the longitudinal movement, it is apparent that the interlocking parts would not register if that movement was continued without a rotary movement of the cap, such movement might be imparted during the longitudinal movement to cause the interlocking parts to register at the end of the combined movement.

X Q. 33. Since you have shaded my meaning of the word "contributing," as employed in my last question, and you have taken the telescope as the type of a telescoping movement, I would ask if the rotary movement which you have referred to in connection with a telescope is a movement in a direction to lengthen or shorten the telescope?

29 A. The rotary movement per se is not a longitudinal movement, but as referred to by me was a movement to assist the longitudinal movement, and in that way to assist in lengthening or shortening the telescope.

X Q. 34. Question repeated.

A. Answer repeated.

X Q. 35. Do you refuse to answer the question X Q. 33 in the form in which I have put the same, that is, restricted to the rotary movement per se without reference to the longitudinal movement in a telescope?

A. I do not refuse to answer any question, and have not done so. I think I gave a fair answer to the question which was repeated. It is obvious that a rotary movement of a plain telescopic section without screw thread or some equivalent thereof would not, except accidently, impart a longitudinal movement to any section.

X Q. 36. But I understand it to be your opinion, do I not, that the term "telescopically" as employed in the patent in suit, includes both longitudinal and rotary movements?

A. Not necessarily. The movement might be wholly longitudinal without a rotary movement, but it might also be a combination of the two movements.

X Q. 37. Do I understand it to be your opinion that the term "telescopically" as employed in the patent in suit includes a relative longitudinal movement of the two members, and also both a relative longitudinal and rotary movement of said members. Does this correctly state my understanding of your position?

A. It does.

X Q. 38. As you and Mr. Curtis were the attorneys who prepared the specification of the Weber patent in suit, I would ask if you personally prepared this specification.

A. I did not.

X Q. 39. Do you know who did? If so, who?

A. I knew nothing about the application, and had no knowledge of it whatever.

X Q. 40. Am I to understand from your answer that you are not able to state the name of the person who prepared the specification of the patent in suit?

A. I have no personal knowledge on the subject.

X Q. 41. Have you any means of finding out? If you have will you do so, and state on the record which person in your office prepared this specification of the patent in suit. I refer to documentary evidence.

A. I know of no such documentary evidence which would give the information requested.

Recess.

X Q. 42. Referring to the "interengaging parts adapted to automatically interlock with a snap action when telescopically applied to each other" as explained in the patent in suit, what would you say in reply to a contention that this means that the snap action is accomplished solely through a relative longitudinal movement of the sleeve and cap members of the socket? I quote from the first claim of the patent in suit.

A. My opinion is the same as heretofore expressed that the telescopic action of the members may be accomplished by a longitudinal movement only, or by a combined longitudinal and rotary move

ment, whereby one member is telescopically applied to the
31 other member to the limit of its longitudinal movement.

X Q. 43. And therefore you give this alternative or double meaning to that portion of claims 1 and 4 of the patent in suit, referring to the snap action when the separate members are "telescopically applied to each other?"

A. What I mean to say is this: That the application of the cap to the sleeve, as described in the patent, would be a telescopic one whether the cap traveled longitudinally without any rotary movement, or longitudinally with a rotary movement.

X Q. 44. In your answer to X Q. 24, you say:

"The spring or snap action which secures the automatic interlocking occurs wholly after the telescopic action has been completed, and it is apparent from the drawings that such snap action could be made to take place with perfect efficiency if the cap were applied telescopically with the projections, 14, located intermediately of the apertures, 13, to the limit of the telescopic movement, and the cap afterwards rotated until the projections were made to register with the apertures, whereupon the snap action would take place to operatively and fully interlock the two case-members."

How are you able to state that the snap action referred to could be made to take place "with perfect efficiency" through the combined longitudinal and rotary movements referred to by you, that is, in connection with the exact construction and arrangement of parts shown in the patent in suit?

A. If the cap was telescopically applied to the sleeve by a longitudinal movement only, and with the apertures, 13, in the cap so positioned relatively to the projections, 14, in the sleeve, that
32 the projections would enter the apertures by a snap action, it is evident that the inner end-edge of the cap which is uncut would pass down or along the inner end of the sleeve beyond the projections before the snap action could take place, and the snap action even when the projections and apertures registered would only take place at the end of the longitudinal movement. Now it is obvious that the cap can be telescopically applied in the same manner to the sleeve when the apertures, 13, are so positioned that they will occupy a smooth uncut portion of the sleeve at one side of the projections at the completion of the telescopic movement. When the cap is so applied the projections have been sprung inwardly toward the axial line of the sleeve, and there is nothing to prevent a rotary movement of the cap; it follows therefore, that when a rotary movement is imparted to the cap, such as will cause the projections to register with the apertures, they will automatically interlock with a snap action, occupying interengaging positions precisely the same that they would occupy if the cap had been telescopically applied to the sleeve by a longitudinal movement only with the apertures in position to register with the projections at the end of the longitudinal telescopic movement.

X Q. 45. Have you ever personally manipulated, in the manner described in your last answer, a two-part casing for incandescent elec-

tric lamp-sockets of the exact construction described and illustrated in the patent in suit?

A. I cannot say positively that every part of the casing was like that illustrated and described in the patent in suit, but I have
33 operated a casing for electric lamp-sockets in the manner described by me in which the interengaging parts adapted to automatically interlock with a snap action, when the members were telescopically applied to each other, were made as shown and described in the patent in suit.

X Q. 46. Have you ever seen a two-part casing for incandescent electric lamp-sockets, every part of which was of the exact construction illustrated in the drawings of the patent in suit?

A. The same so far as I know.

X Q. 47. What did you mean by the first two lines of your answer to X Q. 45?

A. All I meant was that I did not examine every part of the casing, sufficiently to say positively that every part was "of the exact construction described and illustrated in the patent in suit."

X Q. 48. In your answer to X Q. 22, you make the following statement:

"Just how those interlocking parts were arranged or what motion of one member relatively to the other should be employed to interlock the parts would not seem to be material. That the inventor so regarded the matter would seem to be also obvious from the wording of the claims, which are not limited to any particular location of the interlocking parts, or relative movement of the case members in securing the automatic interlocking with a snap action. * * *"

Am I correct in inferring from these statements that it is also your opinion that the specific kind or character of the interlocking parts is not a material feature of the claims of the patent in suit?

34 A. The only limitation that I find in the claims is contained in these words "interengaging parts adapted to automatically interlock with a snap action." I do not think the form of the interlocking parts or exact location is material. In Fig. 3, an aperture which corresponds with aperture, 13, and is marked, 21, is located in the sleeve instead of in the cap, and the projection which corresponds to projection, 14, is marked, 20, and located on the cap instead of on the sleeve and projects inwardly instead of outwardly.

X Q. 49. In order to illustrate the limits, if possible, of the broad construction which you have given to this part of the invention of the patent in suit, that is the part referred to in the quotation in X Q. 48, and in your answer to that question, I will suggest to you the following illustration for a casing for electric lamp-sockets; a sheet-metal sleeve-member having a locking hole near its inner end, and a cap-member provided near its inner end-edge with an inwardly projecting stud or projection, said cap-member being capable of telescoping over the inner end of the sleeve member and said stud or projection being capable of snapping, by a spring action, into said locking hole, all of which occurs through the movement of the cap in a longitudinal direction? Would you regard such an illustra-

tion as coming within the scope of the particular portions of your testimony which I have referred to?

Question objected to as being based upon a purely hypothetical construction and as not proper cross-examination, particularly
35 in the absence of a physical embodyment of the construction referred to. Counsel for Complainant insists that it is not proper to require the witness to make comparisons with purely imaginary constructions.

A. The construction described in the question seems to me impractical if not impossible of operation. If counsel will produce a casing for an electric lamp-socket constructed as described in the question I will then examine the same and answer the question to the best of my ability.

X Q. 50. Do you understand from my description thereof the construction which I proposed to you in the last question?

Counsel for Complainant interposes the same objections as in the last previous question.

Adjourned until Wednesday, September 29th, at 10.00 a. m.

Met pursuant to adjournment at the same place, September 29, 1909, at 10.00 a. m.

Appearances the same.

Cross-examination of Mr. Mosher continued.

By Mr. Wolhaupter:

A. In answering X Q. 50 I do not desire to go further than to say that while I might have a conception in my mind of a con-
36 struction outlined in X Q. 49, it might be entirely different from the construction which the Examiner had in mind in framing the question. For that reason I am of the opinion that the better and usual course would be not to attempt an opinion upon an imaginary structure.

X Q. 51. Pursuing the same inquiry for the purpose of arriving at the breadth of your construction of the claims of the patent in suit, I would ask if you regard the following construction for a lamp-socket casing as falling within the scope of the particular portions of your testimony quoted in X Q. 48: A sheet-metal sleeve member having a compressible inner end portion and locking holes in such end-portion, and a cap-member telescopically fitting over said inner end-portion of the sleeve-member and provided near its inner end-edge with inwardly projecting beveled studs adapted to be moved into said locking holes by a spring snap-action when the members are telescopically applied to each other, this action being accomplished solely through a relative longitudinal movement of the members?

Same objections as to the last two questions.

A. I would respectfully repeat my last answer and state in addition thereto that if the structure described in the question is found in the prior art I do not care to answer the same, and I cannot see that it refers to the exhibits about which I have testified in this case.

37 X Q. 52. If I would say that the construction described in my last answer had not been found in the prior are, would you then be willing to compare such construction with the portion of your testimony quoted in X Q. 48?

Counsel for Complainant makes the same objections as to the last preceding three questions and states that it is entirely immaterial so far as the propriety of the question is concerned whether or not the construction referred to is a part of the prior are. The question is improper and objectionable in asking for a comparison with an hypothetical or imaginary construction so far as appears from the question, and the witness is not properly called upon to make such a comparison.

By Mr. Wolhaupter: Counsel for Defendant submits that he has the right in the cross-examination in the prima facie case of complainant to ascertain by means of questions of the foregoing character the minutes of the witness's construction of the patent in suit, and for that reason feels justified in continuing the examination along that line.

Counsel for complain-t states that so far as the prima facie case is concerned, the exact limits of the scope of this invention as understood by the witness is entirely immaterial, and can

38 be material with reference only to the prior art, or to contemplated constructions.

A. I can only say if such was the fact that it is purely a hypothetical question based upon an imaginary construction which may or may not have some relation to the exhibits in the case, as viewed by the cross examiner, and I must decline to give an opinion upon such a construction which I know nothing about practically, and about which I do not care to theorize in this case.

X Q. 53. I will then ask you the following question. In giving the testimony you have regarding the scope of the claims of the patent in suit in their application to Defendant's structure as represented by the two exhibits in evidence, have you based your opinion entirely on what is disclosed and exemplified by the patent itself on its face, or has this Opinion been affected or influenced in any way by your present knowledge of the prior art pertinent to the invention of the patent in suit?

A. My opinion has not been affected or inflenced by the prior art.

X Q. 54. Am I to infer from that answer that you would answer the first portion of my question in the affirmative, that is, the portion of my question reading "have you based your opinion entirely on what is disclosed and exemplified by the patent itself on its face?"

A. I answer that in the affirmative.

X Q. 55. Are you aware of the fact that the construction of socket casing relating to the locking action between the sleeve and cap-members is covered by patent No. 927,344, issued July 6, 1909, to E. H. Freeman, President of the Defendant Company, on an application filed July 15, 1908?

A. I am not. I never heard of the patent before.

X Q. 56. Referring to claim 1 of the patent in suit, what do you understand to be the function of the introverted tongues which engage with the insulating base?

A. The function is stated in paragraph commencing at line 15, page 2 of the specification, where I find the following:

"If desired, the loosely-fitting insulating-base 3, may be supported within the sleeve by means of one or more tongues, 15, formed by slitting and bending inwardly portions of the sleeve-wall adapted to engage said base, which may be provided with a groove or recess, 16, adapted to receive the several tongues."

X Q. 57. What is your understanding of the meaning of the expression, "may be supported" occurring in the quotation you have just made?

A. I understand it to mean that the loosely-fitting insulating base, 3, may be supported within the sleeve by means of one or more such tongues when desired.

X Q. 58. Do you find in Complainant's Exhibit Defendant's Keyless Socket an insulating base "supported" within the sleeve by means of one or more tongues?

A. I do.

X Q. 59. Please describe what you find in said exhibit which in your opinion responds to that figure of the patent in suit?

A. I find in the base two oppositely-disposed grooves or recesses, and two oppositely-disposed tongues formed by slitting and bending inwardly portions of the sleeve-wall, and adapted to enter the oppositely-disposed recesses in the base when positioned to register therewith, and support the base within the sleeve.

X Q. 60. You find, do you not, in the exhibit referred to that the recesses you mention are open-ended grooves?

A. I do.

X Q. 61. What construction do you give to the word "supported" as employed in the paragraph quoted in your answer to X Q. 56?

A. It seems to me that one apparent supporting function is to prevent the rotation of the base within the sleeve, or any rotatory movement of the base relatively to the sleeve, whether or not any other supporting function was intended I am unable to say.

X Q. 62. Then am I correct in understanding it to be your opinion that the preventing of relative rotary movement between the case and insulating base is the supporting function referred to in the paragraph which you have quoted in your answer to X Q. 56?

A. You are.

X Q. 63. Referring to claim 1 of the patent in suit, what mechanical relation or mechanical cooperation exists between the introverted

tongues and their engagement with the insulating base, and the locking feature of the sleeve and cap-members?

A. The locking feature due to the interengagement of parts on the cap and sleeve, respectively, serves to secure the cap upon the sleeve and form an enclosure, whereas the introverted tongues also formed in the sleeve engage with the base when contained within the enclosure formed by cap and sleeve, and support the base within such enclosure. The positive support of the introverted
41 tongues is against a rotative movement of the base within the sleeve. There would, of course, be another function performed by the introverted tongues when the sleeve is made of spring-metal, and they were introverted sufficiently to bear upon the bottoms of the grooves. In that case, there would be considerable frictional resistance which would oppose any longitudinal movement of the base within the enclosure. Such a resistance to longitudinal movement would tend to prevent the base from striking the cap hammer fashion, as it might possibly do under certain conditions if the base was absolutely free to move longitudinally of the enclosure. Such frictional resistance tending to oppose longitudinal movement of the base and prevent the same from striking the cap with hammer-like force would protect the interengaging parts which automatically interlock and secure the cap upon the sleeve. There would, therefore, in my opinion be a mechanical co-operation of all the parts named for the purposes which I have stated in this answer, if for no other purpose.

X Q. 64. I would ask you to entirely remove the insulating base from the two exhibits, Complainant's Exhibit, Defendant's Keyless Socket, and Complainant's Exhibit, Defendant's Key Socket, and state whether or not with the base so removed you find any more difficulty in locking and releasing the cap than with the base arranged within the sleeve?

A. I do not see any difference.

X Q. 65. If there is a mechanical co-operation between the introverted tongues specified in claim 1, of the patent in suit,
42 and the interengaging parts for locking the cap and sleeve, is it not a fact that the same mechanical co-operation would exist if some other means such as a screw, or a stud on the sleeve, were employed in place of said introverted tongues?

A. The last clause of the claim expressly states that the base is loosely enclosed within the sleeve. If the sleeve was fixedly secured to the base by a screw or some other means, the base would not be loosely enclosed.

X Q. 66. My last question simply involves the substitution for the introverted tongues by a mechanical element such as a screw or a stud carried by the sleeve, and engaging in the peripheral groove or recess 16 (of Fig. 1, of the drawings of the patent in suit) and performing the same function as such tongues. With such amplification of my previous question, I repeat the same.

A. I may add to my last answer that if the part substituted had all the functions of the introverted tongues, and performed the function of frictional resistance to a longitudinally movable base

and a check upon rotative movement of the base, there would be mechanical cooperation.

X Q. 67. If the introverted tongue element was omitted from claim 1 of the patent in suit, would you then regard such claim as describing a complete and operative structure.

A. I think it would be operative though probably less durable and more likely to become inoperative in use.

X Q. 68. Please state briefly your conception and definition of the term "tongue" employed as a mechanical element, such for instance as its use in the specification of the patent in suit?

43 A. I cannot give any fuller expression of my opinion than I have already done.

X Q. 69. As I do not find that you have attempted to specifically define your understanding of the term "tongue" as used in the patent in suit, I must repeat my request for a brief explanation of your understanding of this term as a mechanical element?

A. I have no further opinion to express on the subject.

X Q. 70. Do I understand from your last two answers that you will not undertake to specifically state what you consider the term "tongue" to comprehend as a mechanical element, aside from what may be gathered inferentially from the opinion you have already expressed?

A. I will say that there is shown and disclosed in the patent in suit a device called a tongue. I have described as fully as I am able to its operation and its function. In my opinion it makes no difference whatever whether this device is called a tongue, a toe, an arm, a projection or any other name. Therefore I see no object in going into the subject of an abstract definition of the word "tongue," and I do not feel qualified to state every known function of any device which might by any special imagination or otherwise be called a tongue. If counsel has any specific form of construction or any specific function described by me I will endeavor to describe it to the best of my ability.

X Q. 71. You do not wish it to be understood, do you, that your reason for not going into the definition of an abstract term is because you can see no object in going into the same?

A. I think it is a matter of defense which the questioner

44 could prove by his own expert, and not call upon the Complainant to define in the abstract such well known term as "tongue" when applied to mechanical devices. I have described the uses or functions of the part or device called a tongue of the patent in suit, and I do not care to give any abstract opinion having no bearing upon devices shown in the patent.

By Mr. Wolhaupter: The answer of the witness is objected to as being unresponsive to the question and also stating a conclusion and not within the province of a witness.

X Q. 72. Mr. Mosher, can you produce a lampsocket casing referred to in your answers to X Q.'s 45 and 46?

A. I cannot.

X Q. 73. Please state why you cannot produce that particular casing?

A. It is not in my custody and I do not know where it is.

X Q. 74. Where and when did you examine that particular casing?

A. A few days ago here in this office.

X Q. 75. Am I correct in understanding it to be your opinion that the several features of the first four claims of the patent in suit are to be found in Complainant's Exhibit, Defendant's Keyless Socket, and that the features of the fourth claim of said patent are to be found in Complainant's Exhibit, Defendant's Key Socket?

A. You are.

GEORGE A. MOSHER.

Cross-examination closed.

45 It is hereby stipulated on part of Defendant that since the date of notice of infringement sent to Defendant Company and hereby acknowledged, and also since the date of the commencement of this suit, the Defendant has continued to manufacture and sell within the State and District of New Jersey, lamp-sockets of the same construction as the exhibit now produced and marked, "Complainant's Exhibit, Defendant's Keyless Socket No. 2."

Counsel for Complainant offers in evidence the said exhibit.

Counsel for Defendant stipulates that the said notice now produced was received by the Defendant Company in due course of mail after the date which it bears, April 15, 1909.

The notice referred to is offered in evidence by Complainant's counsel, and marked "Complainant's Exhibit, Notice of Infringement."

It is hereby further stipulated on the part of Defendant that since the date of said notice of infringement sent to the Defendant Company, and hereby acknowledged, and also since the date of the commencement of this suit, the Defendant has continued to manufacture and sell within the State and District of New Jersey lamp-sockets of the same construction as the exhibit already introduced in evidence marked "Complainant's Exhibit, Defendant's Key Socket."

46 United States Circuit Court, District of New Jersey.

In Equity. On Patent No. 743,206.

WEBER ELECTRIC COMPANY, Complainant,

vs.

E. H. FREEMAN ELECTRIC CO., Defendant.

Rebuttal proofs taken on behalf of Complainant at the office of Frank C. Curtis, 303 Cannon Place, Troy, N. Y., in accordance with agreement of counsel, beginning at 10:00 A. M., August 16, 1912.

Present: Frank C. Curtis, Esq., Counsel for Complainant.

47 ALBERT F. GANZ, called on behalf of the complainant and duly sworn, testifies as follows:

Examined by Mr. Curtis:

Q. 1. What is your name, age, residence and occupation?

A. My name is Albert Frederick Ganz. I am 40 years of age; I live in the City of Hoboken, State of New Jersey; I am Professor of Electrical Engineering, and Head of the Department of Electrical Engineering, in the Stevens Institute of Technology, Hoboken, N. J.; and I am also a consulting Electrical Engineer.

Q. 2. State briefly what experience and training you have had in mechanical and electrical matters which can enable the opinions which you may express herein to be considered by the Court as competent and of value.

A. My experience in electrical and mechanical matters began in 1887, when I entered the employ of Bergmann & Co., manufacturers of electrical apparatus, and principally of appliances for the Edison electrical lighting system, such as sockets, cut-outs, fuses, etc. I remained in the employ of Bergmann & Co. for four years, and was then transferred to the Edison General Electric Company's works at Schenectady, which Company had absorbed Bergmann & Co., and I continued in the employ of the Edison General Electric Company for one year; this Edison General Electric Company has since changed its name to the General Electric Company. During this employment, I worked successively in the shops and electrical testing laboratory. I worked in the shops for the purpose of learning the practical side of the electrical business. While employed in
48 the shops, it was my duty for several years to look after the local electric lighting plant, which included electric light wiring, making repairs to electric light fixtures, etc. When I was later transferred to the electrical testing laboratory, my position was that of Assistant Electrician. My principal duties there were the testing and designing of electrical appliances.

Concurrently with my employment in the shops and laboratory of Bergmann & Co., I attended the Cooper Institute night school in New York City, taking courses in mathematics, mechanics, electricity, mechanical drawing and chemistry.

In 1892 I entered Stevens Institute of Technology as a student of the Sophomore class, and was graduated in 1895, with the degree of Mechanical Engineer.

Immediately after graduating I was appointed Assistant in Applied Electricity and Physics in the Stevens Institute of Technology; after two years in that capacity, I was advanced to the position of Assistant Professor of Applied Electricity and Physics, and in 1902 I was appointed to my present position, namely, Professor of Electrical Engineering, and Head of the Department of Electrical Engineering.

In addition to my work of teaching, I have carried on a practice of Consulting Engineer, and in this connection have done considerable professional engineering work. This work has consisted in making commercial and scientific tests and investigations, designing

special electrical apparatus, and in examining patents and
49 patented devices. I have also given expert testimony in a number of patent litigations and in other law suits where mechanical and electrical matters were involved. I have written a number of scientific papers, and have traveled extensively in this country and in Europe, for the purpose of further familiarizing myself with the state of the art of electrical engineering.

Q. 3. Are you a member or are you otherwise associated with any of the professional or scientific societies?

A. I am a Fellow of the American Institute of Electrical Engineers and of the American Association for the Advancement of Science; I am a member of the American Society of Mechanical Engineers, of the American Electrochemical Society, of the Society for the Promotion of Engineering Education, of the Illuminating Engineering Society, of the American Water Works Association, and of the New York Electrical Society.

Q. 4. I show you United States patent No. 743,206, dated November 3, 1903, granted to August Weber, Sr., for Incandescent Electric Lamp-Socket. Have you read and do you understand the subject matter of the invention disclosed in this patent and claimed in the claims thereof?

A. I have carefully read the specification and have examined the drawings of the patent inquired about, and believe that I understand the subject matter of the invention disclosed in this patent.

Q. 5. Have you read and are you familiar with the deposition of Defendant's Expert, Mr. Arthur S. Browne, and the various patents cited by Mr. Browne in his deposition, and have you ex-
50 amined "Complainant's Exhibit, Defendant's Key Socket," "Complainant's Exhibit, Defendant's Keyless Socket" and "Complainant's Exhibit, Defendant's Keyless Socket No. 2"?

A. I have read the depositions and patents referred to, and have also examined the Exhibit Sockets, and I believe that I understand them.

Q. 6. Will you please examine the several patents referred to by Mr. Browne, and assumed by him to form part of the prior art, and make such explanation as you deem necessary for the proper understanding of said patents by the Court in their application to the matters in issue herein; will you also examine the comparison which Mr. Browne has made of the Exhibit sockets with claims 1, 2, 3 and 4 of the Weber patent No. 743,206 here in suit; and in any case where you fail to agree with the conclusions reached by Mr. Browne kindly explain wherein you disagree, and give your reasons for such opinions as you may express?

A. I find that Mr. Browne in his deposition first takes up claim 2 and 3 of the Weber patent in suit. For convenience of reference and comparison, I will write these claims in the following analyzed form:

Claim 2:

"In a device of the class described, the combination with

ELEMENTS.	DESCRIPTION.
1. A base	of insulating material having a peripheral recess; and
2. An incandescent lamp-support	mounted theron; of
3. An inclosing case	therefor comprising in part a sheet-metal sleeve having a portion of its wall introverted to occupy said base-recess, substantially as described."

51 Claim 3:

"In a device of the class described, the combination with

ELEMENTS.	DESCRIPTION.
1. A base	of insulating material having a peripheral recess; and
2. A screw-socket	fixedly mounted thereon; of
3. An inclosing case	therefor comprising in part a sheet-metal sleeve having a portion of its wall introverted to occupy said base-recess and prevent a relative rotative movement between said sleeve, base and socket, substantially as described."

Mr. Browne in his testimony states that in his opinion these claims 2 and 3 of the Weber patent are wholly lacking in novelty because of the disclosures of the prior German patent No. 106,898, to Mix and Genest, of the prior British patent No. 6781 to the Edison & Swan Electric Light Co., of the prior British patent No. 11,714 to Gover and Proctor, and of the prior U. S. patent No. 516,819 to Knowles.

I find that the above German and British patents describe lamp-sockets in which the wall of the sleeve is introverted to engage with recesses in the insulating base for the purpose of preventing relative rotative movement. In these sockets, the lamp is, however, supported directly from the sleeve, so that when a lamp is inserted in the socket there is no torsional strain produced on the insulating base requiring this to be secured against rotary movement, but the strain is applied directly to the sleeve, while in the structure
52 of claims 2 and 3 of the Weber patent, the lamp is supported by means of an incandescent-lamp support or a screw-socket mounted upon the insulating base, so that when a lamp is inserted

in the socket a torsional strain is produced on the insulating base requiring this to be secured against rotative movement. For this reason, these structures of the German and British patents differ in my opinion materially from the structure of claims 2 and 3 of the patent in suit, as well as from defendant's keyless socket.

Referring to the patent to Knowles, I find that this discloses an incandescent lamp-socket, which also differs materially from the socket contemplated by claims 2 and 3 of the patent in suit. In the Knowles socket, the lamp is supported by a screw-thread formed directly on the sleeve of the socket, whereas in the socket described in claims 2 and 3 of the patent in suit, the lamp is supported by an incandescent lamp support or by a screw-socket mounted upon the insulating base. In the Knowles patent, the insulating base is rectangular in section at right angles to the axis of the socket, and this rectangular base is supported against rotative movement by means of longitudinal indentations in the sleeve, and is not supported by having a portion of the wall of the sleeve introverted so as to occupy recesses in the base. In the Knowles socket there is also no torsional strain produced on the insulating base requiring this to be secured against rotative movement as is the case with the Weber and the defendant's constructions. The structure of the Knowles patent is, therefore, radically different from the structure described in claims 2 and 3 of the patent in suit.

53 Mr. Browne also cites the following prior patents in an attempt to show that the subject matters of claims 2 and 3 are old:

U. S. patent No. 626,927 to Perkins, U. S. patent No. 587,027 to Wirt, U. S. patent No. 680,932 to Marshall, and U. S. patent No. 690,976 to Marshall. I find that in the above patents either the ends of screws which fasten the sleeve and cap together, or studs fastened to the interior of the sleeve through which these fastening screws pass, engage with recesses in an insulating base for the purpose of preventing relative rotative movement to some extent. None of the structures disclosed in the above prior patents embodies a sleeve with a portion of its wall introverted so as to occupy recesses in the insulating base, as required by claims 2 and 3 of the Weber patent. In my opinion, therefore, these prior patents do not anticipate the structures of claims 2 and 3 of the Weber patent.

Mr. Browne in his deposition next considers claim 4 of the Weber patent in suit, and states that the features described in this claim for locking and unlocking the sleeve and cap members are not present in defendant's socket-casing. He states that the contents of the file-wrapper of the Weber patent shows that claim 4 was amended to avoid the U. S. Patent No. 712,686 to Kenney, and U. S. Patent No. 642,825 to Oetting, and that for this reason this claim must be narrowly interpreted to cover only the literal construction described in the claim, and that this literal construction is not found in defendant's structure. It is true that claim 4

54 does not read on the Oetting or Kenney devices, but these references do not, in my opinion, require the literal and narrow interpretation of claim 4 stated by Mr. Browne. Irrespective

of this. I believe that claim 4 does correctly describe the structure of defendant's socket-casing. In order to explain my reasons for these views, I will write claim 4 in the following analyzed form:

Claim 4: "In a device of the class described and in combination a pair of members comprising"

ELEMENTS.	DESCRIPTION.
1. "A sheet-metal sleeve	having a slotted end; and
2. A sheet-metal cap	adapted to telescopically receive the slotted end of said sleeve, one of said members being provided with a recess, and the other having a correspondingly-located transverse slit and the wall on one side thereof displaced to form a projection beveled or inclined toward said recessed member and terminating abruptly at said slit, whereby said members are adapted to automatically interlock with a snap action when telescopically applied to each other, and to be released by manual compression of said slotted sleeve, substantially as described.

The Kenney patent No. 712,686 is a companion patent to No. 712,685 granted to Kenney on the same date. Both of these patents refer to incandescent electric lamp-sockets, and more particularly to means for locking the cap and sleeve members together.

In the first Kenney patent No. 712,685, the cap is provided with inwardly projecting studs or inwardly projecting indentations in the cap as shown in Figures 2 and 4 of the Kenney patent, and the sleeve is provided with correspondingly-located short slots, D, and with rectangular apertures, E, Figure 3, to one side from the bottom of the slots, so that there is an intervening wall of metal F between the adjacent sides of the slot and aperture. To attach the cap to the sleeve, it is placed over the sleeve with its inward projections sliding into the slots of the sleeve, and the sleeve is then given a short turn forcing the projections or studs G of the cap to ride over the partitions F and slide into the apertures E. The specifications state that the adjacent parallel edges of the slots D and E may be slightly rounded or beveled towards each other to facilitate the starting movement of the radial studs G. In the second patent to Keeney No. 712,686 there are shown, besides this locking device of the first patent, additional diametric projections in the cap and corresponding diametric bayonet slots in the sleeve, whereby the cap and sleeve are more securely held against longitudinal movement of separation than was possible with the locking

device of the first Kenney patent alone, and whereby the insulating base of the socket is held in place as illustrated in Fig. 2 of the patent. In the sockets of both the Kenney patents, the cap and sleeve members when locked together are released from each other by merely rotating one member with reference to the other in a direction opposite to the direction in which they were rotated when they were locked together. No manual compression of either member is necessary, as with the device of the patent in suit and with defendant's socket. In the Kenney socket of patent No. 712,685
56 the short inward projections or indentations G do not terminate abruptly as at a transverse slit and do not afford a secure locking device for the two members, and in the second patent to Kenney No. 712,686 these same locking devices are in fact supplemented by comparatively long cylindrical studs in the cap engaging with bayonet slots in the sleeve.

Mr. Browne further states that the two patents to Kenney show that it was old to make the socket-sleeve compressible by longitudinally slitting the sleeve. Referring to the first Kenney patent No. 712,685, in which a keyless socket is illustrated, it is seen that the sleeve member is provided with three open slots of short length relative to the length of the sleeve itself. The slots in the sleeve are not sufficiently deep to make the sleeve member manually compressible in the manner contemplated by claim 4, and in fact in locking and unlocking the sleeve and cap members of the device of this Kenney patent, as already explained, no manual compression of the sleeve is required or is possible, while with the Weber construction and in defendant's construction, it is impossible to unlock the cap and sleeve members without first manually compressing the sleeve. For this reason, the sleeve member in the Weber construction must be slotted to a depth to make it possible to compress the sleeve to a sufficient extent to allow at least one of its catches to be entirely clear of its recess. In the Kenney patent No. 712,686, a key-socket is shown. The sleeve in this is slotted for the purpose of enabling the shaft of the key to pass through the sleeve. The same locking means are used in this socket as in the earlier Kenney patent with the addition of pins and bayonet slots, and no
57 manual compression of the sleeve member is therefore intended or required for locking or unlocking the case-members. It is clear from the above that the Kenney patents do not disclose a sleeve-member made compressible by slotting one end, for the purpose of enabling the two members to be unlocked from each other by the manual compression of the sleeve, as is described by claim 4 of the Weber patent.

Comparing claim 4 of the patent in suit with the Kenney patents, it is seen that the Kenney devices do not have any features which are equivalent to the inclined or beveled portion of the wall of one of the members, terminating abruptly as at a slit in such a manner as to afford snap-action and a positive lock against longitudinal movement of separation as required by claim 4. The indentations shown in the Kenney patents afford only a frictional lock and not a positive or safe lock. Further, no manual compression of the sleeve-member

is required or intended for unlocking the Kenney device, whereas such manual compression for unlocking is required by claim 4. This is an important difference because where manual compression of the sleeve-member is necessary for unlocking, a much securer lock is obtained than when unlocking can be accomplished by a mere rotation of the sleeve, as in the Kenney device. I note that in the defendant's structure a positive lock against longitudinal movement is secured, and the sleeve and cap members can be unlocked only by manual compression of the sleeve, exactly as in the Weber socket, and unlike the socket of the Kenney patent.

Referring to the Oetting patent, I find that this patent re-
58 lates to a combination of cap and sleeve forming the enclosing case of an incandescent lamp-socket. The sleeve is provided with comparatively long tongues, marked with the numeral 6 in the drawing of the patent, cut out from the sheet-metal at the top of the sleeve. The upper ends of these tongues are bent outward at right angles, forming lips marked with the numeral 9 in the drawing. The cap is provided with transverse slots corresponding in position to the tongues in the sleeve, and so located that when the cap is telescopically applied to the sleeve, the lips of these tongues fit into the corresponding slots in the cap, thus locking the cap and sleeve together, as will be seen from an examination of the drawings of the patent.

As the lips of the tongues must project beyond the outer surface of the sleeve, these tongues must be pressed inwardly before the sleeve can be telescopically applied to the cap. To release the sleeve from the cap, the tongues must first be pressed inwardly so as to release the lips from the apertures in the cap, after which the sleeve can be withdrawn from the cap.

Mr. Browne in his testimony states that the mode of interlocking and releasing the sleeve and cap members described in the Oetting patent "is that called for by claim 4 of the Weber patent which says that the members (cap and shell) are adapted to automatically interlock with a snap-action when telescopically applied to each other and to be released by manual compression of said slotted sleeve." In my opin-
59 ion, however, the mode of interlocking employed in the Oetting device is not automatic because the spring catches must first be pressed inwardly before the cap and sleeve members can be telescopically applied to each other for the purpose of interlocking them. Further, to release the members in the Oetting device, these spring catches must first be individually pressed inwardly, before the members can be withdrawn from each other, while in the construction described in claim 4, the body of the sleeve is compressed to release the two members from each other. In my opinion, therefore, the mode of interlocking and releasing the sleeve and cap members of the Oetting patent are substantially and radically different from the mode of interlocking and releasing the sleeve and cap members of the structure described in claim 4 of the Weber patent in suit.

Furthermore, it is my opinion that spring catches on socket casings constructed from the usual sheet brass, and made in accordance with the Oetting patent, if operative at all, would afford a much less secure

and less effective locking means than the locking means employed in the Weber device or in defendant's device. The individual catches as made in the Oetting socket may easily become bent out of shape in ordinary use and rendered entirely useless as a locking device. It would not be a safe device to use.

The argument used in the application of the Weber patent in suit, as shown by the file-wrapper, to distinguish the structure of Claim 4 from the Kenney device, was to the effect that in the Kenney device the indentations used as catches are not capable of performing the function of beveled portions terminating abruptly at trans-
60 verse slits in affording a positive lock against movement of separation. The argument used in the application to differentiate the structure of claim 4 from the Oetting device was to the effect that with the Oetting structure the spring catches must first be pressed inwardly before the two members can be applied telescopically to each other, so that automatic interlocking is not accomplished as with the structure of claim 4. I do not believe, therefore, that the references to Kenney and Oetting require the literal and narrow interpretation of claim 4, as stated by Mr. Browne. The only points emphasized by the file-wrapper are that the projections must be so inclined as to automatically interlock in assembling, and they must terminate so abruptly as to require the sleeve to be compressed to unlock them.

I will next analyze the structure of defendant's sockets and give my reasons for the opinions, already expressed, that these sockets do embody the structure of claim 4.

The socket-casings of the two Freeman keyless sockets are substantially identical. The key socket has a casing which differs from that of the keyless socket only in that the sleeve of the former is provided with a wide slot which allows the key to pass freely through it, while the sleeve of the keyless socket is provided with only a narrow slot sufficient to make the sleeve compressible.

Since the socket-casings are otherwise alike, I will discuss them together. This casing comprises the two elements of claim 4 of the Weber patent, namely a sheet-metal sleeve having a slotted end, and a sheet-metal cap. The cap is adapted to telescopically re-
61 ceive the slotted end of the sleeve. One of the two members, namely the sleeve-member, is provided with a circular hole through the metal near the top of the sleeve, shown at 15 in the Freeman patent, and the wall on one side of the hole, as shown at 16, is beveled or inclined from the hole to the top of the sleeve in the direction towards the cap-member. This beveled or inclined portion terminates abruptly at the hole, as is clearly shown by the Exhibit sockets. The cap member is provided with inwardly projecting studs, as shown at 19 in the Freeman patent. When the cap and sleeve members are to be interlocked they are telescopically applied to each other and are slightly rotated, causing the projecting studs to ride over the beveled portion of the wall of the sleeve, 16, until the two parts snap together whereupon they are firmly locked together. The metal between the hole, 15, and the upper edge of the sleeve, is therefore a catch which springs into the recess formed behind the projection, 19.

This is well shown in a cross-sectional view through this locking device which I produce herewith, and which I have marked "Complainant's Exhibit Ganz Drawing."

To view the space behind the stud, 19, as the recess of Claim 4, is in accordance with definitions of the word "recess" given by defendant's expert, Mr. Browne, in his answers to X Q. 52 and 53, in which answers he states that "the recess is the feature which co-operates with the catch." Also, a recess "is a portion of a device which recedes from any given datum, point or surface. The purpose in all three patents is simply to provide one of the parts which
62 is to be fastened with a shoulder which can co-operate with the catch. In the Weber patent this recess is (in the case of Fig. 1) a portion which recedes from the inner surface of the catch so as to furnish a shoulder for the end of the catch 14 to engage." In precisely the same manner the rear of the stud 19 in the cap of the Freeman socket recedes from the end surface of the stud, forming a shoulder which co-operates with the catch formed by the inclined portion of the sleeve adjacent to the slot therein for the purpose of locking the two members together. In claim 2 of the Freeman patent those studs are in fact called "inwardly extending lugs having abrupt locking shoulders." The space in the rear of one of these lugs may therefore very properly be termed a recess in the sense that this term is used in claim 4; and it has the functions of the recess of claim 4.

To release the two members of defendant's socket from each other, the sleeve-member is manually compressed, then given a slight rotative movement, after which the two can be withdrawn from each other. Without manual compression, the two members remain securely locked together exactly as in the preferred form of socket-casing described in the specification of the Weber patent in suit.

It is therefore seen that the hole, 15, in the Freeman socket sleeve accomplishes the same result and in the same manner as is accomplished by the transverse slit of claim 4, in that it serves to abruptly terminate the beveled or inclined portion of the wall of the
63 sleeve, 16, which forms the catch of the locking means, and enables a positive lock to be formed between this catch and the recess behind the stud, 19.

The fact that in the Freeman structure a slight rotative movement of the two members is required in addition to or simultaneously with the longitudinal movement, does not in my opinion alter the correctness of the statement that the two members are interlocked by telescopic application to each other. As a confirmation of this, I find that the Standard Dictionary gives as a definition of "telescopic" "having tubular parts or sections sliding or working within or over one another." In the specification of the Weber patent in suit, it is merely stated that the cap and sleeve members are to be interlocked by telescopic application to each other. Such telescopic application can, in my opinion, consist either of a longitudinal movement alone, or of a combined longitudinal movement and a rotative movement. While the preferred construction of the Weber socket-casing described and illustrated in the patent requires only longitudinal move-

ment for locking and unlocking the case members, this fact does not, in my opinion, require that the expression "telescopic" must be interpreted to mean longitudinal movement alone. For the above reasons I am therefore of the opinion that claim 4 of the Weber patent correctly describes the structure of the defendant's sockets.

Mr. Browne states, however, that it is impossible to find in defendant's socket the locking means described in claim 4 of the Weber patent. He bases his opinion on the erroneous assumption
64 that the hole in the sleeve of defendant's socket is the recess of claim 4, and that, therefore, the beveled portion terminating abruptly at a transverse slit must, if at all, be found, in the cap, and that defendant's cap does not have this construction. I have, however, shown in the foregoing that this interpretation is not correct, and that, in fact, the beveled portion of the wall of the sleeve between the hole and the edge of the sleeve has the functions and is the catch of claim 4, and that the space behind the stud, 19, in the cap has the function and is the recess of claim 4 which engages with the catch formed on the sleeve. I have already shown above that the definitions of the term "recess" which Mr. Browne has given clearly describes the part behind the stud 19 of defendant's socket. Mr. Browne in his cross examination denies, however, that the space behind the studs 19 in defendant's socket can be properly considered to constitute the recess of claim 4 of the Weber patent. Asked to explain the application of the term recess to the U. S. patent No. 589,921 to Ashworth, and to the United States patent No. 657,267 to Epstein, he stated that in the Ashworth patent, "the cap B has a recess (called a "notch *b*") which co-operates with the projection or catch *f*," and "the corresponding recess of the Epstein patent No. 657,267 is the recessed portion of the cap B, which is above the hook *k* (Figs. 1 and 4) which co-operates with the catch 1 carried by the body of the box." These recesses of the Ashworth and Epstein patents bear a close resemblance to the recess formed behind
65 the stud 19 in defendant's socket cap. In each case the surface recedes to provide one of the parts which is to be fastened with a shoulder, which can co-operate with a catch. To illustrate this analogy I have shown in the drawing marked "Complainant's Exhibit, Ganz Drawing" sectional views of the part of the Ashworth and Epstein patents termed "recess" by Mr. Browne, and of the part of the Freeman socket corresponding to the "recess" of claim 4. The analogy will be evident from the drawing. It seems therefore to me that Mr. Browne has assumed an unfair and unsustainable position when he refuses to admit that the space behind the stud 19 in defendant's socket is the recess of claim 4 of the Weber patent. For the reasons given in full above, I am therefore of the opinion that claim 4 of the Weber patent correctly describes the structure of defendant's sockets.

Br. Browne further cites the following prior patents as disclosing features of claim 4, which I will discuss in detail: U. S. patent No. 414,922 to Rodman, U. S. patent No. 589,921 to Ashworth, U. S. patent No. 657,267 to Epstein, U. S. patent No. 320,814 to Pollard.

I find that the patent to Rodman describes an arrangement for

aching an incandescent lamp to a socket, for the purpose of sup-
rting the lamp and of making electrical connections between the
cuit wires and the lamp. The lamp has a circular or elliptical
tal shell or sleeve secured to its top, shown at 33 in the drawing of
the patent. This sleeve is adapted to fit telescopically into the
member 21 of the socket. The sleeve has two outwardly pro-
jecting spring catches, 42, riveted to its interior wall, and the
ses of these catches project through apertures in this wall; the
mber 21 is provided with two correspondingly-located recesses 44
arranged that when the member 33 is inserted into the member 21,
spring catches 42 engage with the recesses 44. To release the two
mbers the spring catches are pressed inwardly by means of push
ttons, 45, when the two members can be separated from each other.
is Rodman device therefore does not have a sheet-metal sleeve
h a slotted end whereby it is made compressible, and the two
mbers when interlocked cannot be released by manually com-
ssing a sleeve member as required by claim 4 of the Weber patent.
my opinion, the arrangement of the locking device in the Rod-
n construction is totally different from the device described in
im 4 of the Weber patent. Furthermore, in the Rodman patent,
conditions of use of the locking device are essentially different
m that of a lamp-socket since the locking device is used to merely
ure a lamp in a socket and is not used to lock together the two
e members of a socket containing live circuit terminals. Spring
ches which might be safe and satisfactory for merely securing a
p in a socket, might be entirely unsatisfactory, insecure and
ngerous for locking the case-members of a socket together, as the
er is required frequently to support a shadeholder and shade;
l the accidental unlocking of the case-members is also a more
serious and dangerous matter than would be the unlocking
of a lamp which latter might result in the destruction of the
lamp, but would generally do no further harm. Unlocking
members of a socket may, however, result in a short circuit which
dangerous, and if the sleeve of a socket should become detached,
circuit terminals would be exposed and this might cause other
ngers.

Mr. Browne next describes the patents to Ashworth, Pollard and
stein. I find that these three patents are for match or card boxes
l that they show various forms of spring catches for locking the
er of the box to the box. In my opinion, all of these three pat-
s show devices which are totally different from and bear no re-
mblance whatever to the structure described in claim 4 of the
ber patent; and which could not be used under the conditions
t with in the use of lamp-sockets. Familiarity with the operation
different spring catches on match boxes and card boxes would not
ord a safe guide to their use on lamp-sockets which are exposed to
olly different use and severe strains, shocks and vibrations, which
match case or card box never encounters.

Considering all of the structures described in the patents alleged
defendant's expert to anticipate the structure described in claim
f the Weber patent, and already considered in detail above, it is

my opinion that these patents taken individually or collectively, do not disclose or suggest the structure described by claim 4 of the patent in suit. Most of these prior patents describe various forms of spring catches. Such spring catches are very old in the art,
68 and the Weber patent does not purport to cover any type of spring catch taken by itself. As I understand the structure described in claim 4, the novel feature of construction, described therein, results in means whereby the sleeve and cap members of the casing can by telescopic application to each other be automatically locked together with snap action, so as to be positively locked against longitudinal movement of separation, and be released from each other by manual compression of the sleeve; these means to comprise substantially and to have the essential function of a catch on one member beveled or inclined toward the other member and terminating abruptly at a transverse slit, engaging with a corresponding recess in the other member. None of the prior patents cited by defendant's expert has this construction or accomplishes this very useful result, while defendant's socket-casing does have this construction and does accomplish this result exactly as does the preferred form of the device described in the specification of the patent.

With reference to claim 1 of the patent in suit, Mr. Browne states that in his opinion this claim attempts to include two distinct and separate features, one to prevent rotation of the insulating base, in the sleeve, and the other to lock the cap and sleeve together, and that for this reason the structure of claim 1 is an aggregation and is not a patentable combination.

For convenient reference and comparison, I will write claim 1 in the following analyzed form:

Claim 1: "In a device of the class described, the combina-
69 tion with a pair of members comprising"

ELEMENTS.	DESCRIPTION.
1—"A sheet-metal sleeve	having a slotted end and introverted tongues, and
2—A cap	adapted to telescopically receive the slotted end of said sleeve, said members having interengaging parts adapted to automatically interlock with a snap action when telescopically applied to each other, and to be released by compression of said sleeve; of
3—An insulating base	for electrical fittings loosely inclosed within said sleeve in engagement with said tongues, substantially as described."

In my opinion the elements of claim 1 co-operate with each other because the construction of claim 1 enables the three parts of the

socket, namely, the sleeve, the cap, and the insulating base for electrical fittings, to be locked together by telescopic application of the sleeve into the cap, thereby engaging the introverted tongues of the sleeve with the recesses in the insulating base and securing this base against rotative movement, and simultaneously interlocking the sleeve and cap members together. This is made clear when considering how a socket is ordinarily applied to a fixture. In this case the cap is first attached to the fixture; the base member is then held in the cap, and the two circuit wires are secured to the two binding screws on the base member; the sleeve is then telescopically applied over the base and into the cap, whereby the sleeve is made to
70 interlock with the cap and the insulating base is simultaneously fastened against relative rotative movement. For the above reasons, I am of the opinion, that the structure of claim 1 is properly a combination and is not a mere aggregation.

Mr. Browne in his testimony also states that the structure of claim 1 lacks novelty in view of the disclosures of a number of patents of the prior art which he has cited. I have examined all of these prior patents and find that some of them disclose various forms of devices for locking two telescopically fitting members together, and that others disclose projections inside of a sleeve engaging with recesses in an interior base for the purpose of preventing relative rotative movement. None of the structures described in these prior patents disclose, however, a structure comprising a sheet-metal sleeve having a slotted end and introverted tongues adapted to interlock automatically with snap action with a cap when applied telescopically to the cap, and to be released by compression of the sleeve, and an insulating base for electrical fittings enclosed within said sleeve in engagement with said tongues, as required by claim 1 of the Weber patent.

Likewise none of these prior patents discloses a structure in which it is possible to unite a cap-member, a sleeve-member, and an insulating base for electrical fittings, by the simple telescopic application of the members, in such a manner as to securely lock the cap and sleeve together and simultaneously to secure the insulating base against relative rotative movement by engagement of the base
71 with introverted tongues from the sleeve.

I find, in fact, that Mr. Browne in his cross-examination admits in answer to X Q. 20 that "Weber was the first to bring together in the same incandescent electric lamp-socket, the two features, one constituting a sheet-metal sleeve and cap adapted to automatically interlock with a snap-action, and the other constituting an introverted portion of the wall of that sleeve adapted to occupy a recess in the enclosed base of insulating material to prevent relative rotation of said base and sleeve."

Counsel for complainant offers in evidence the drawing produced by Professor Ganz marked "Complainant's Exhibit Ganz Drawing."

Adjourned to January 31, 1913.

Met pursuant to agreement January 31, 1913, at the office of Frank C. Curtis, Cannon Place, Troy, N. Y.

Present:

David P. Wolhaupter, Esq., Counsel for Defendant.
Frank C. Curtis, Esq., Counsel for Complainant.

Cross-examination.

By Mr. Wolhaupter:

X Q. 7. I understand that you were formerly employed by Bergmann & Company, manufacturers of electrical apparatus, and that the line of goods made by that company included electric
72 lamp-sockets. In that connection I would ask if any of the electrical lamp sockets made by Bergmann & Company during your connection with that concern embodied a two-part metal casing consisting of a sleeve and cap separably connected?

A. Yes.

X Q. 8. If you recall the means employed in the Bergmann sockets to thus connect the parts together, please state what they were?

A. In one form of socket manufactured by Bergmann & Company, which I remember very distinctly, the cap and shell were held against each other by means of a screw-threaded ring of rubber or similar material which was screwed upon the screw-socket with an annular projection fitting into the bottom of the sleeve. I believe that screw and bayonet slots fastenings were also used in other sockets manufactured by Bergmann & Company while I was in their employ.

X Q. 9. Were the sockets which you refer to as having been made by Bergmann & Company, when you were in their employ, the lined-type of socket, that is to say, having a lining of insulating material for both cap and sleeve?

A. I know positively that most, if not all, of these sockets did not have such insulating linings because I recall making up such linings myself for the sleeves when wiring sockets to avoid causing short circuiting of the socket through the shell. This was a frequent source of trouble with lamp sockets in those days. I did not make such linings for caps, because that was not so easy to do when wiring the socket and was not as necessary.

73 X Q. 10. Referring to the patent in suit, there appears on page 1 of the specification commencing at line 35 the declaration, "My invention is applicable to various telescopically-connecting members, etc." What is your understanding of the meaning which the patentee in making that statement has in mind?

A. I cannot know what the patentee had in mind, but my opinion is that having devised a novel and useful means for positively and safely locking and unlocking the two telescopic members of incandescent electric lamp sockets, he sought to obtain a patent which would cover such locking means for other telescopically connecting members where the requirements were the same or similar to those existing in incandescent electric lamp sockets.

X Q. 11. That is to say, it is your opinion then that the patent in suit covers an improvement that would be applicable to other devices, besides those belonging to the electrical art, where substantially the same conditions prevail, is that correct?

A. Where the same conditions prevail and the requirements are the same, yes.

X Q. 12. Would you consider the invention of the patent in suit applicable to such a device as the one shown in the patent to Pollard No. 320,814?

A. I would think not, because this patent is for a car-ticket or stamp-box. The condition of use and the requirements which such a box must meet are totally different from those of any incandescent electric lamp-socket.

X Q. 13. Conceding that to be a fact, for the sake of argument, would you not say that a very necessary and desirable char-
74 acteristic of a box for car-tickets or stamps is that of the provision of means for safely and securely locking the cap against accidental displacement?

A. I do not see that there is any great necessity for providing a very secure lock for fastening the cover to the body of a car-ticket or stamp box, because in ordinary use no force of any considerable magnitude is likely to be accidentally applied tending to separate cover and box. There is no necessity for safely locking the cover and box together because no danger would result if the cover of the box should become accidentally separated from the box.

X Q. 14. Would you say that the locking means of the Pollard patent consisting of the spring members D carrying the studs *d*, in the box member, and the holes in the cap member, would be applicable to an incandescent electric socket casing as a fastening means for holding together the cap and sleeve?

A. In my opinion these locking means of the Pollard patent would not afford a secure and safe locking means for holding together the cap and sleeve members of an incandescent electric lamp socket. It would of course be possible to apply the Pollard locking means to an incandescent electric lamp socket, but in my opinion the result would not be satisfactory for the reasons already stated.

X Q. 15. Would you not say that the locking means of the Pollard patent are quite as adaptable mechanically to an electric lamp socket as the locking means shown in the patent to Oetting?

A. So far as I can see, they would be.

X Q. 16. Please refer to the sentence commencing on
75 line 84 of the patent in suit, and state what your understanding is as to the characteristics, structurally, of the elements to which the patentee refers to as "projections 14 on the exterior of the sleeve near its inner end?"

A. The part of the specification referred to in the question describes the preferred form of key socket embodying the invention, which key socket is illustrated in Fig. 2 of the patent. The projection 14 is formed from the metal sleeve by forcing a portion of the metal outwardly in such a manner that a projection is formed inclining or leveling towards the top of the sleeve and terminating abruptly as a transverse slit at its bottom. The characteristics of

this projection is that of a beveled catch which in combination with a suitable recess can form an automatic and positive lock.

X Q. 17. Do you not find this identical feature of construction, though simply reversed, in the keyless type of socket shown in figure 3 of the patent in suit?

A. I do.

X Q. 18. Do you find this same feature of construction referred to in claim 4 of the patent in suit in the following language: "One of said members being provided with a recess, and the other having a correspondingly located transverse slit, and the wall on one side thereof displaced to form a projection beveled or inclined towards said recessed member and terminating abruptly at said slit?"

A. Yes, the language quoted from claim 4 correctly describes the construction illustrated in Figures 1, 2 and 3 of the drawings of the patent.

76 X Q. 19. Please explain your understanding of the term "displaced" as employed in claim 4 of the patent in suit?

A. By being displaced I understand that a portion of the metal is bent or forced inwardly or outwardly in such a manner as to form a projection upon the surface of the metal.

X Q. 20. Do you not find claim 4 of the patent in suit specifies that the metal, which is displaced outwardly or inwardly as you say, is the tongue of metal formed by the transverse slitting?

A. The claim does not specify a tongue, but does specify a projection which is formed by displacing the wall on one side of the slit in such a manner that the projection is beveled or inclined for the purpose of affording automatic interlocking means, and that the projection terminates abruptly at the slit for the purpose of affording a positive lock.

X Q. 21. Referring to the file-wrapper of the patent in suit, and particularly to the amendment dated March 30, 1903, I would ask you to specify what limitations were introduced by this amendment into the present claim 4 of the patent?

A. I find from this file-wrapper that present claim 4 was amended by inserting the following:

"Claim 4, formerly 7, line 6, immediately after 'located,' insert the words, *transverse slit and the wall on one side thereof displaced to form a*.

Same claim, line 7, immediately after 'abruptly' insert the words, *at said slit*.

Same claim, line 10, immediately before the word 'compression' insert, *manual*."

77 These amendments were introduced for the purpose of avoiding the Oetting and Kenney constructions. The scope of claim 4 as amended, in view of the Oetting and Kenney patents, is well set forth under the heading "Remarks," in the amendment of March 30, 1903, referred to, which is quoted in full as follows:

"Remarks.

Claim 4, originally 7, is now drawn to a specific structure having advantages not found in either of the references cited. By transversely slitting the sheet metal shell and displacing the wall on one side of said slit to form a beveled or inclined projection the parts are permitted to be applied to each other by simply inserting one within the other without manually compressing the inner member, but when the parts have once interlocked with the snap-action, the abrupt abutment formed by the displaced wall adjacent to said slit effectually prevents the separation of the members until the inner member has been forcibly compressed by the hand of the operator. Accidental or unintentional separation of the members is practically impossible.

In the Oetting construction the parts cannot be locked by simple telescopic movement it being necessary to manually depress the three catches, 6,—that is, at the same time the operator is applying the cap to the sleeve, he must engage each of these catches or tongues with one of his fingers and simultaneously press all three inwardly until the catches are so depressed that the cap can pass down over them. Furthermore, the slits whereby the tongues, 6, are formed materially weaken the shell of the socket.

In the Kenney construction the studs G are formed by simple indentations in the sheet-metal having no abrupt terminations
78 at either end to resist unlocking, such as is formed at the slitted end of the inclined projections in applicant's device. Kenney's device is adapted to unlock by simply rotating one member upon another in the same manner that the parts are locked together, no manual compression of the inner member being necessary. Kenney recognizes this liability of this device to become unlocked under the strain incidental to the pull upon the switch-key in lines 22 to 28, page 1 of his patent, and he provides additional means in the form of pins N to reinforce the other locking mechanism to adapt the device for a key-socket, that being substantially the only difference between the patent referred to and his companion patent No. 712,685 for keyless sockets. Applicant's device can only be unlocked by designedly compressing the inner sleeve member."

X Q. 22. Then Professor, you find, do you not, that the file-wrapper of the patent in suit shows that the patentee acquiesced in the Patent Office ruling that claim 4 in its original form, quoted as follows, was anticipated by the patents to Oetting and Kenney,

"In a device of the class described, and in combination a pair of members comprising a sheet-metal sleeve having a slotted end, and a sheet-metal cap adapted to telescopically receive the slotted end of said sleeve, one of said members being provided with a recess, and the other having a correspondingly-located projection beveled or inclined toward said recessed member and terminating abruptly whereby said members are adapted to automatically interlock with

a snap-action when telescopically applied to each other, a
79 to be released by compression of said slotted sleeve, substa
tially as described."

A. As I understand the file-wrapper the inventor acknowledg that the Oetting and Kenney devices anticipated his inventio It was, therefore, necessary to limit claim 4 sufficiently to av the Oetting and Kenney constructions, and the amendments to t claim were added for this purpose. The differentiation betwe the structure of claim 4, and the structures of the Oetting and K ney devices, are well set forth in the "Remarks" of the attorn given in the amendment dated March 30, 1903, and quoted in f in my answer to X Q. 21.

X Q. 23. Referring to X Q. 18 and your answer thereto, I wou ask if you do not find that in both forms of the Weber sock shown in the patent in suit, one of the members is formed wi the beveled projections produced by displacing a portion of t metal at the transverse slit, while the other member of the cas has no projections of any character, but is provided with the h to receive the said beveled projection when the two members a brought into interlocking relation?

A. The above is a correct description of the construction of t locking means employed in the preferred form of the keyl and key sockets illustrated and described in the specification of t patent.

X Q. 24. You speak of preferred forms. Are any other for of the invention of the patent in suit illustrated therein?

A. No.

Recess.

80 X Q. 25. Referring again to claim 4 of the patent in su is it not your understanding that the term "transverse" h reference to a plane at right angles to the longitudinal axis of t lamp socket?

A. Yes.

X Q. 26. In your direct examination you have analyzed clai 1, 2 and 3 of the patent in suit. As the result of that analysis it your opinion that Defendant's Key Socket does not respond either of these three claims of the patent in suit?

A. It is.

X Q. 27. Are you familiar with the Weber socket as put out the market and purporting to be manufactured under the pate in suit?

A. I am familiar with the Weber socket as found on the ma ket, and this embodies the invention disclosed in the patent he in suit.

X Q. 28. I now hand you one of these sockets which was fu nished by Counsel for Complainant and would ask if you identi the same as a market-sample of the Weber socket?

A. In answering X Q. 27, I had particularly in mind the i terlocking means employed in the socket handed to me by Cou

sel, and I recognize that these means are substantially the same as those I have seen employed in the Weber sockets on the market. In regard to the means for supporting the insulating base inside of the sleeve against relative rotative movement, I believe I have seen Weber sockets on the market in which a single inward projection from the sleeve engaged with a groove in the insulating base for the purpose of supporting the base inside of the sleeve, while in
81 the sample handed me, a pair of projections close to each other engage with a pair of grooves for this purpose.

X Q. 29. Have you ever seen any market-samples of the Weber socket which did not have the means for preventing relative rotary movement of the sleeve and the cap?

A. In forms of the Weber socket where the sleeve and cap members can only be assembled in one of two diametrically opposite positions, such as the sample handed me by Counsel. A separate outward projection from the sleeve engages with a corresponding slot in the cap for the purpose of alining the two members properly when they are to be locked together, and also for the purpose of positively preventing relative rotative movement between the cap and sleeve members when they are locked together. So far as I remember all the commercial forms of the Weber sockets of the type where the cap and sleeve members can be assembled in only one of two positions, the above means have been provided.

Counsel for Defendant now offers in evidence the sample of Weber socket above referred to, it being stipulated that the said sample is a market-sample of a type of Weber socket as manufactured by the Complainant. The Notary is requested to make this Exhibit Defendant's Cross Exhibit-Market Sample Weber Socket.

X Q. 30. Do you find the Kenney patent No. 712,686, to be a disclosure of the following combination in an incandescent electric lamp socket:

82 A pair of members comprising a sheet-metal sleeve having a slotted end and a cap adapted to telescopically receive one end of said sleeve, said members having interengaging parts adapted to automatically interlock with a snap action when telescopically applied to each other, and an insulating base for the electrical fittings loosely enclosed within said sleeve in engagement with inward projections carried by one of said members, said inward projections serving to lock the said insulating base against relative rotary movement?

A. The Kenney Patent inquired about discloses a pair of members comprising a sheet-metal sleeve having a slotted end, and a cap adapted to telescopically receive one end of said sleeve, said members having interengaging parts adapted to automatically interlock when the cap is placed over the sleeve and the two are then slightly rotated. I would not say that they interlock with snap action, because the projections G, which ride over the metal partition F, and slide into the openings E, are not provided with abrupt terminations and, therefore, ride gradually into the open-

ings E, instead of snapping suddenly into these openings. The Kenney patent inquired about does disclose an insulating base for the electrical fittings loosely enclosed within the sleeve in engagement with inward projections carried by one of said members, said inward projections serving to lock the said insulating base against relative rotary movement.

X Q. 31. If the insulating base in the German patent to
83 Mix & Genest were supplied with the ordinary screw shell for receiving the plug of the lamp, instead of the form of contacts illustrated in the drawings of the patent, would you then say that this German patent exhausted the novelty or alleged novelty of claims 2 and 3 of the patent in suit?

A. The change suggested would completely alter the mode of operation of the Mix & Genest lamp socket. In the latter socket as disclosed in the German patent, the incandescent lamp is supported from the sleeve of the socket-casing, while spring projections from the insulating base lead the current into and out of the lamp. The change suggested would, therefore, require an entire reconstruction of the device disclosed in the Mix & Genest patent. This would result in a new device upon which claims 2 and 3 of the patent in suit might be read.

X Q. 32. Please answer the same question only substituting in your answer the Knowles patent No. 546,819?

A. In the lamp socket disclosed in the Knowles patent, the sleeve of the socket-casing is screw-threaded for the purpose of supporting an incandescent lamp, and spring projections from the insulating base serve to lead the current into and out from the incandescent lamp. The insulating base is rectangular in form and is supported against relative rotative movement by means of two pairs of indentations in the sleeve of the casing. The change suggested in the question requires an entire reconstruction of the device disclosed in the Knowles patent, in order to make this operative; but even such a reconstructed socket would not be cor-
84 rectly described by claims 2 and 3 of the patent in suit.

X Q. 33. Have you ever seen any market-samples of the Knowles' keyless lamp sockets responding to a disclosure of the Knowles patent No. 546,819?

A. I have not.

X Q. 34. Have you ever seen any market-samples of lamp sockets responding to the disclosures of the following patents: U. S. patent to Wirt, No. 587,027; U. S. patent to Perkins, No. 626,927; U. S. patent to Oetting, No. 642,825; U. S. patent to Marshall, No. 680,932; U. S. patent to Marshall, No. 690,976; U. S. patents to Kenney, Nos. 712,685 and 712,686; German patent to Mix & Genest, No. 106,898?

A. I have examined at different times a great many types of lamp sockets on the market, but could not say positively whether any of them corresponded to the disclosures of the patents cited in the question.

X Q. 35. Reverting to the patent in suit, I would ask if the inverted tongues for holding the insulating base from turning

there omitted would the operation or effectiveness of the snap fastening between the cap and the sleeve be affected in any way?

A. No.

X Q. 36. Is it not also true that the specific means described by the patentee, Weber, in claims 1, 2 and 3 of the patent in suit, to prevent turning of the insulating base, in no way affect the operation or effectiveness of the snap fastening which the patentee provides between the cap and sleeve?

A. It does not effect the effectiveness of the snap fastening or the interlocking of the cap and sleeve members, nor directly the operation of this inter-locking, but the interlocking of these members and the supporting of the insulating base are performed simultaneously by one operation.

X Q. 37. Is that not also true of the structure shown in the Kenny patent No. 712,686?

A. In the Kenney patent referred to, the interlocking of the cap and sleeve members and the supporting of the insulating base are also accomplished simultaneously by the same operations.

X Q. 38. In your opinion, Professor, would you say that the construction of lamp socket shown in the Kenney patent just referred to is a commercial one?

A. I do not believe that the construction disclosed in the Kenney patent affords a sufficiently secure and safe locking means to meet the severe requirements of incandescent electric lamp sockets. In practice where lamp sockets are attached to fixtures, the sleeve of the socket must frequently support a shade-holder and shade, and this sleeve must, therefore, be very securely locked to the cap which itself is fixedly attached to the fixture. With a structure, such as shown in the Kenney patent, the sleeve would be very apt to become accidentally unlocked from the cap in ordinary use on fixtures. For these reasons I do not consider that a lamp socket constructed in accordance with the Kenney patent would be a satisfactory commercial article today.

X Q. 39. What would you say as to the commercial ability or uncommercial ability of lamp sockets constructed in accordance with the several other patents listed in my cross-question 34?

A. I do not remember having seen commercial embodiments of any of the patents referred to and it is, therefore, a little hard for me to answer the question definitely. It is my opinion, however, that none of these construction- would satisfactorily meet the commercial requirements of today, as the demand is unquestionably for a snap shell type of socket which interlocks automatically, and when locked, affords a positive lock.

X Q. 40. Referring to the Oetting patent, do you not find that that patent disclosed a structure wherein a positive lock against longitudinal movement is secured, and the sleeve and cap members can be unlocked by manual compression of the portions of the sleeve having the locking projections?

A. I do not believe that the locking device of the Oetting patent can be relied upon to afford a positive lock, because one or more

of the spring catches may easily by accident become bent out o
place because these spring catches are narrow strips of thin meta
which must be manually compressed every time the socket is locke
or unlocked.

Stipulation.

It is hereby stipulated and agreed by and between counsel fo
the respective parties hereto that Counsel for Defendants may pro
duce and offer in evidence manufactured Market Samples of ele
trical lamp sockets which he alleges to have discovered re
87 sponding to several of the prior art patents already pleade
by defendants, and that subject to the direction of the cou
as to the procedure, may be allowed time to take testimony in proo
thereof, the complainant being also allowed time to complete it
proofs in rebuttal.

Redirect examination.

By Mr. Curtis:

R. D. Q. 41. In your answer to X Q. 22 you used the wor
"anticipate"; with what meaning do you there use that word?

A. What I meant was that the inventor in drawing up his pate
wanted to disclaim the Oetting and Kenney devices, that is to say
he did not want to cover the Oetting and Kenney devices. In othe
words, the structures of the Oetting and Kenney devices are differen
from the device which the patentee intended to claim.

ALBERT F. GANZ.

Adjourned pursuant to agreement.

88 *Stipulation.*

United States District Court, District of New Jersey.

WEBER ELECTRIC COMPANY

vs.

E. H. FREEMAN ELECTRIC COMPANY.

It is hereby stipulated and agreed by and between Counsel for th
respective parties that Frederick Ecaubert and Charles Wilhelm,
called and sworn as witnesses on behalf of the Complainant here
would testify respectively as appears in the annexed copies of depo
tions given by them in the United States District Court for th
District of Massachusetts, in Weber Electric Company vs. Wi
Manufacturing Company, in equity on patent No. 743,206; and th
said annexed depositions may be used herein with the same force an
effect as though separately taken and introduced in this cause; an
that each and all of the exhibits offered in evidence by either par

referred to in said depositions may be offered and used in evidence herein with the same force and effect as though proved herein by the like evidence.

FRANK CURTIS,
Counsel for Complainant.
D. P. WOLHAUPTER,
Counsel for Defendant.

Troy, N. Y., August 14, 1913.

89 United States District Court, District of Massachusetts.

In Equity. On Patent No. 743,206.

WEBER ELECTRIC COMPANY

vs.

WIRT MANUFACTURING COMPANY.

Depositions of Witnesses, Taken on Behalf of the Complainant in Rebuttal, Under the Order Herein, Pursuant to the Annexed Notice, on the 18th Day of June, 1913, at the Office of Adams & Chambers, Post Office Building, New York City, Before Frederic M. Adams, a Standing Examiner of the United States District Court for the Southern District of New York.

Present:

Frank C. Curtis, Counsel for Complainant.
Reuben L. Roberts, Counsel for Defendant.

90 CHARLES WILHELM, a witness called on behalf of Complainant, and first duly sworn, testified as follows:

Direct examination.

By Mr. Curtis:

1 Q. Please state your name, age, residence and occupation?
A. Charles Wilhelm; age, 62; residence, New York City; occupation, machinist formerly, but retired now.
2 Q. Where were you formerly employed as a machinist?
A. Mr. Frederick Ecaubert, 18 and 20 Rose street, New York City.
3 Q. Up to about what date were you employed by Mr. Ecaubert?
A. Up to, I think it was May 1908 or 1909, it was May about four years ago.
4 Q. While in Mr. Ecaubert's employ did you ever do any work relating to the shells or cases of incandescent electric lamp sockets?
A. Yes, sir.
5 Q. When and for whom did you do such work?
A. I done work for a Mr. August Weber, Sr., in 1898.
6 Q. Where did Mr. Weber live at that time?

A. Schenectady, New York.

7 Q. What was the nature of that work which you did for M
Weber in 1898 relating to the shells or cases of incandescent electri
lamp sockets?

A. I made a die to crush out the projections on the shell and cu
the two tongues to hold the porcelain and to cut out slots for the ke

8 Q. Did you talk personally with Mr. Weber at that time wit
regard to the work?

A. Yes, sir.

9 Q. How did Mr. Weber explain to you at that time the form
die which he wished made?

91 A. Mr. Weber had a shell and a cap to go over the shel
he had the two projections that hold the shell hammered ou
with a punch, the tongues for the porcelain to hold the porcelai
were cut out with a chisel or something and pressed in; and the sl
for the key was made cut out of the same shell, and he asked me
make a die to produce the same.

10 Q. Are you able to produce that die that you made for M
Weber at that time?

A. No, sir.

11 Q. What effort have you made to find it?

A. I have looked all over the shop and could not find it some yea
ago.

12 Q. I show you a drawing, marked Complainant's Exhib
Wilhelm drawing, and ask you if you know by whom it was mad
and what it represents?

(Handing paper to witness.)

A. This drawing was made by me. It represents the die, the co
and the cutters, the one made for Mr. Weber.

13 Q. And was this drawing made for me, at my request, to sh
the construction of the die which you were unable to find?

A. Yes, sir.

14 Q. Please explain the construction and operation of this d
referring by reference letters to the parts shown in the drawing?

A. A is the outside die; B is the inside core; No. 1 on the die is
cut the key slot in the shell; No. 2 is to cut and press in the tongu
for the porcelain; No. 3 is to crush out projections on the shell. Th
is the die. Cutter No. 1 is used for cutting slots for the keys; cut
No. 2 is used for cutting the tongues in the sleeve to hold t
92 porcelain; cutter No. 3 is pressed outward in the die to
the raised projections on the shell.

15 Q. Then as I understand it, the cutter No. 1 worked in t
slot 1 in the die?

A. Yes, sir.

16 Q. And cutter No. 2 worked in the several slots 2 in the d
and cutter No. 3 worked in the slots 3 in the die; is that the ope
tion?

A. That was the operation.

The drawing identified by the witness and explained by him is offered in evidence as "Complainant's Exhibit Wilhelm Drawing."

17 Q. What use did you make of that die when you had it completed?

A. Mr. Weber, Sr., gave me about a dozen shells and I got them out in that form with the slots and projections and the tongues going in to hold the porcelain.

18 Q. What, if anything, did Mr. Weber do with those shells which you at that time cut and punched with that die?

A. Well, he came down and examined them, and he said they were all right and satisfactory, just the way he wanted them; and he took some of them along with him and we kept one there, I guess, maybe two. Mr. Ecaubert had one in his desk for a long time.

19 Q. Did Mr. Weber make any test of these shells when you had them completed?

A. Yes, sir, he tried them, he put the cap on to the shell to see how it fit.

20 Q. I show you a socket sleeve, marked Complainant's Exhibit Weber Sleeve made by Ecaubert and a shell or casing comprising a sleeve and cap marked Complainant's Exhibit Weber Shell made by Ecaubert, and ask you whether you identify these exhibits, and if so, what they are?

93

A. Well, these are the exhibits made from the die that I made for Mr. Weber.

21 Q. And how do these correspond with the others which you made for Mr. Weber in 1898 and which were tested in your presence?

A. They are exactly the same thing, identically the same thing as I made at that time.

22 Q. Have you ever at any time done any other work for any one upon the sleeves or cases of incandescent electric lamp sockets except that which you testified you did for Mr. Weber in 1898?

A. No, sir.

Counsel for complainant offers in evidence the two exhibits just referred to by the witness, "Weber Sleeve made by Ecaubert" and "Weber Shell made by Ecaubert." June 18, 1913, F. M. A., Ex.

Cross-examination.

By Mr. Roberts:

23 X Q. When was this drawing made by you which you have referred to, to illustrate the die which you say you made for Mr. Weber in January, 1898?

A. I made that drawing about three years ago.

24 X Q. Did you make this drawing of the die entirely from memory of what you made in 1898?

A. Yes, sir.

25 X Q. What became of the die, so far as you know, which you made for Mr. Weber at the time mentioned?

A. After Mr. Weber came down and looked at the die, we had

a long desk in the shop where we put all finished work,
94 and I put the dies there. That is all I know about it.

26 X Q. Were dies of this kind, that is to say, with a core and tools to work in connection with it through slots, a new form of die with you at the time that you made this one for Mr. Weber?

A. No, I had made all kinds of dies, with cores and without cores, but mostly without cores, we very seldom made cores unless you wanted to press something in with them.

27 X Q. That is to say, it was only the particular shape of the working end of the tool that you needed any instructions on in making such dies?

A. Yes, sir.

28 X Q. How were these tools for operating this die worked in this instance?

A. The shell is placed into die A, then the core B is placed inside; then cutter 1 is used by putting cutter 1 in slot 1 of the die and using a hammer to drive the cutter into make the slot. The next operation was using cutter 2 in slot 2 marked on die A and going through the same process with a hammer. Then the core was taken out the cutter No. 3 was used, it was used with a hammer from both sides to make the projections, that is the cutter was placed inside the shell and the guide portions of the cutter rested on top of the shell and in the grooves 3 of the die; then it was struck from both sides with a hammer, driving first one way and then the other.

29 X Q. Was there any depression in the die which was a counterpart of the cutting portion of the cutter No. 3?

A. No, sir, it was simply driven into the straight slot, the
95 marks of which show on the sleeve in these exhibits.

30 X Q. Will you mention some of the other dies and cutters which you had previously made for working upon cylindrical articles?

A. I made so many dies that I really can't mention them all; I made them by the thousands; I did that work for 42 years, I made drawings besides the dies for different kinds of machines, watch case dies, all kinds of jewelry dies, sewing machine dies.

31 X Q. Will you mention one or two dies of this character which were used in operating upon cylindrical articles?

A. I made watch case center dies; also made dies for cutting out slots where they are used in an inner core to receive the spring and hinges in a watch case.

32 X Q. In your experience as a worker upon portions of watch cases, did you ever see a Waltham watch movement in a box in which they usually ship them to the dealers?

A. Yes, sir.

33 X Q. When did you first see one of those?

A. Oh, a good many years ago, when they used paper boxes before they used metal boxes.

34 X Q. Did you see the Waltham watch movements when they were sent out to dealers in metal boxes?

A. No, sir, I have seen them in tin boxes like a shoe polish box where they put the lid right on, and in paper boxes.

35 X Q. Did you ever see the Waltham watch movement in boxes like those marked Defendant's Exhibit Fitch & Marsh Watch Movement Boxes, which are exhibits in this case?

A. No, sir, I never saw any like this: I have seen them where they pushed them right on like a shoe polish box.

96 36 X Q. From your knowledge of dies needed to make projections like those contained in Defendant's Exhibit Fitch & Marsh Watch Movement Box what sort of die would you use to produce the projections contained in that exhibit?

A. In order to make that die I would use an anvil die, like the points of an anvil, and have a punch on the die have the same projection as the inside of this slot, the upper punch would be the same shape as the top of the projection and by placing this on the die and the upper punch coming down would make that projection; there is another thing about this, it can be rolled in without a die.

37 X Q. But you would need something which took the place of a core in order to make the projection such as shown in that box, would you not, to work in conjunction with what you call the punch?

A. Yes, sir.

38 X Q. And the particular kind of die with a core or without a core and the punch to be used in connection with it, would depend upon the style of the article in which you were to form these projections, would it not?

A. Yes, sir.

39 X Q. And all that is within your knowledge as a die maker?

A. Yes, sir.

40 X Q. Could not the projections upon the rim of the cover and box of this watch movement box referred to be made with a die and punch like that which you made to produce the projections upon the shells of the lamp sockets which you made for Mr. Weber in 1898; that is to say, I do not refer to the exact form, but the general construction.

A. It could be made the same way.

97 41 X Q. And do you see any substantial difference between the projections on this watch movement box, and those which you made in the shells for Mr. Weber, as testified to?

A. Well the difference is that this has one projection and the shell has two, that is the only difference; of course they are both made to hold down the cap or the cover.

42 X Q. And they are substantially the same form, are they not?

A. They are about the same thing; the same form and shape.

43 X Q. Of what shape would you *made* the end of your cutter, recalled, if instead of wishing to cut through the metal as in the shell, Weber Sleeve made by Ecaubert, you wished to simply make projection which was not cut through the metal?

A. By rounding off the edge of the cutting punch No. 3.

44 X Q. Is it possible, within your experience, to make suc
dies for punching out projections in sheet metal which will not c
through the metal?

A. Yes, sir.

45 X Q. If a die which you had made for simply forming pr
jections without cutting through the metal when put into operati
you found that it did cut through or break the metal, what wou
you conclude was the trouble, and how would you remedy it?

A. The metal might be too hard and break through. I shou
use soft metal, round off the corners of the punch cutter and al
a little on the die.

46 X Q. In your experience as a maker of dies have you ma
and used what is known as a prick punch or pin punch and if s
for what purpose?

A. A prick punch is what we call a center punch, it com
98 to a point; a pin punch is a punch that is used for drivi
out pins to go through a shaft.

47 X Q. Have you made prick punches with a broad or chisel
point?

A. Yes, I have often ground the point off to use for a certain pu
pose when I wanted to get a flat bottom on the projection. And
also made all kinds of shapes, different shapes of punches to g
different impressions in dies.

48 X Q. In making the drawing Complainant's Exhibit Wilhel
Drawing did you do it entirely from memory of what you say y
had made in 1898, more than ten years previously?

A. Yes, sir.

49 X Q. Had you never made any similar dies between the ti
that you made the one for Mr. Weber in 1898 and the time wh
you made this drawing referred to?

A. No, sir.

Deposition closed.

CHARLES WILHELM.

Attest:

F. M. ADAMS,
Examiner.

99 FREDERIC ECAUBERT, called as a witness on behalf of t
Complainant, being duly sworn, testified as follows:

Direct examination.

By Mr. Curtis:

1 Q. Please state your name, age, residence and occupation?

A. Frederic Ecaubert; age past 69 years; residence, 434 Vand
bilt Avenue, Brooklyn, N. Y.; occupation, I have a small machi
shop, 18 Rose Street, New York City.

2 Q. What is your line of machine work?

A. I am a die maker and general machinist.

3 Q. How long have you known August Weber, Sr., of Schenectady, New York?

A. Since 1869.

4 Q. Have you ever done any work for Mr. Weber relating to the manufacture of incandescent electric lamp sockets?

A. Yes, sir.

5 Q. What work have you done for him relating to such lamp sockets?

A. A good many years ago Mr. Weber came down to my shop and asked if we would accommodate him by making a die for him, and he showed me some drawings, after which he was to construct dies, to make dies.

6 Q. Will you please describe the work which these dies were to do that Mr. Weber asked you to make?

A. The dies which I had to make were intended to manufacture lamp sockets with one part to be locked to the other.

7 Q. Can you describe how one part was to be locked to the other?

A. Well, one part had a projection, as far as I remember, lifted out from the cylindrical surface of a tube, and the other part, I believe, was perforated to receive that projection.

100 8 Q. Who, connected with your shop, did the work on this die which you made for Mr. Weber?

A. Charles Wilhelm worked at that time for me, and was foreman, and he did that work.

9 Q. When was it that you did this work of making the die for Mr. Weber?

A. I can't remember the exact time unless I see the record in the shop, the books.

10 Q. Will you please examine those records and read upon the record such entries as you find relating to this work which you did for Mr. Weber?

A. (Witness examines books.) In my ledger, I find on page 265 the entry, "Jan. 12, 1898, Aug. Weber, Dies for Lamp Sockets, 3253, $13.80, Pd. Jan. 15, 98." In my time book I find in the record of Mr. Wilhelm's time, the following entry of work done during the week of January 3 to January 8, 1898, "Aug. Weber, 3253, 6½ hours"; also during the week January 10 to 15, 1898, "Aug. Weber, 3253, 11½ hours." In my cash book I find, during the period from January 10 to 15, 1898, the entry, "Aug. Weber, $13.80."

11 Q. In the entries which have been read upon the record from your books, I find the number 3253. What does that number mean?

A. I have order books where I write the order to the workman, and number it consecutively.

12 Q. Then this number means Job. No. 3253 in your shop?

A. Yes, sir.

13 Q. Are these three books from which you have quoted entries, books which you kept in the regular course of your business at the time of the dates which these entries bear?

A. Yes.

14 Q. Who kept these books, that is, in whose handwriting are these entries?

101 A. I believe at that time Martha, one of my daughters, kept these books. I never had any other bookkeeper.

15 Q. Was your supervision of these books such as to enable you to know that they are correct records of the transactions which appear therein?

A. Yes, sir.

16 Q. Do the entries to which you have referred enable you to fix definitely the date or time when you did that work for Mr. Weber of making the dies for the lamp socket shell?

A. Yes, sir.

17 Q. Is there any question as to these entries being entries for the work which you have testified you did for Mr. Weber on that die?

A. No, sir, no question.

18 Q. Where is your daughter, Martha, at the present time?

A. She is in Switzerland at present, with her aunt.

Counsel for complainant offers in evidence the three books identified by the witness, and the same are marked "Complainant's Exhibit Ecaubert Books and designated respectively the Ledger as No. 1, Cash Book as No. 2, and Time Book as No. 3." June 18, 1913. F. M. A., Exr.

19 Q. I show you a bill on one of your bill heads, dated January 12, 1898, to Mr. August Weber, and a check signed "A. Weber" No. 433, dated January 13, 1898, and ask you to please state what you know about them (handing papers to witness)?

102 A. I remember that this is the bill for the dies which we made for Mr. Weber to make lamp sockets, and that this check has been received as payment of this bill dated January 12th and the money has been collected by the bank for me—I deposited it.

20 Q. Is the signature "F. Ecaubert," on the back of this check, your own signature?

A. Yes, sir.

21 Q. And was this check endorsed by you and paid in due course, within a few days after the date which it bears?

A. Yes, sir.

22 Q. Do you recall who made the little sketch or drawing on this bill of January 12, 1898?

A. I did that myself.

Counsel for complainant offers in evidence the bill just identified by the witness, and the same is marked "Complainant's Exhibit Ecaubert Bill. June 18, 1913, F. M. A., Exr."

Also offers in evidence check just identified by the witness, and the same is marked "Complainant's Exhibit Weber Check, June 18, 1913, F. M. A., Exr."

23 Q. I show you a lamp socket shell or casing, marked Complainant's Exhibit Weber Shell made by Ecaubert, and ask you if you recognize that, and if so, to please state what you know about it?

A. It is my custom when I make dies for particular purposes that I keep samples made with that die, and I recognize this as such a sample.

24 Q. Such a sample of the work of what die?

A. A sample made with that die that I rendered the bill for.

103 25 Q. Then, as I understand you, this is a sample made with the die that you made for Mr. Weber in January, 1898?

A. Yes, sir.

26 Q. This exhibit which you have just identified bears a tag showing it to have been an exhibit in evidence in the case of Weber Electric Company against National Gas & Electric Fixture Company. In whose possession was this exhibit from the time it was made in January, 1898, by the die which you made for Mr. Weber up to the time when you delivered it to me for use as an exhibit in evidence?

A. During that period it was in my possession.

27 Q. Continuously?

A. Yes, sir.

28 Q. Have you ever done for Mr. Weber any work for incandescent electric lamp socket shells other than this job No. 3253 to which you have testified?

A. Not to my knowledge.

It is stipulated and agreed that the several entries from the Ecaubert books 1, 2 and 3, read into the record in the answer of the witness may be used with the same force and effect as the original entries in the respective books, the books to be produced in court upon request.

Cross-examination.

By Mr. Roberts:

29 X Q. How long have you been in business, Mr. Ecaubert?

A. I believe since 1877 or 1878.

30 X Q. To what extent have you made dies for punching or otherwise working upon sheet metal while you have been in business?

104 A. I cannot tell you without consulting my books. Off and on we made such dies, whenever we got orders for them.

31 X Q. How are these dies worked in operating upon the shells that you say Mr. Weber left with you?

A. I can't remember exactly how they were made. I believe it was a cylinder, and I can't remember, and then some pins through to push out sideways, certain part to push out that part in the sheet metal. I don't remember.

32 X Q. Were they operated in a press or by hand?

A. I think they could be operated both ways, by hand or in a press.

33 X Q. But you do not remember how they were worked when you made the sample?

A. No, sir.

34 X Q. Are you a practical die worker yourself?

A. Yes, sir, I am believed to be.

35 X. Q. If you wished to have those projections in the sheet metal simply forced out from the metal and not cut through how would you make the die to produce it?

A. I can't tell that so quick. I would have to think it over.

36 X Q. Did you never make a die to produce projections in sheet metal and not have the die or cutter break or cut through that metal?

A. Oh, yes.

37 X Q. How did you make the male die for forming these projections in the sheet metal, of what form?

A. There is an endless variety. According to the requirements. You may emboss letters or ornaments without pressing through the metal, of course.

105 38 X Q. If you made dies intending to simply push out projections in sheet metal without cutting through, and you found in the operation that it did break the metal or cut it through, what would you conclude was the trouble with the die?

A. Ordinarily the male die is too thick, too large, then it has to be reduced.

39 X Q. Were those dies which you made for Mr. Weber, as you have testified, in 1898, the first dies which you had made for punching sheet metal with projections upon some one side of which the metal was cut through?

A. I don't remember what I did at that time.

40 X Q. I mean, prior to that time had you made any dies for producing projections of a similar kind, that is to say, for holding together two parts of a metal article?

A. I don't believe so. I don't remember of any.

41 X Q. Have you ever done any work for any one besides Mr. Weber upon dies or tools to be used in making lamp sockets or any part of them?

A. I cannot recall to mind that we ever made any.

42 X Q. Please to look at the box which I now show you and state what sort of die you would make to produce the projections on the box part and the cover for holding them together, shown in that article?

A. I don't know yet; I would have to think that over before I would make it.

43 X Q. Could you use a die similar to the one that you made for Mr. Weber to produce those projections?

A. I really do not remember; I can make anything. If I was making the die now I think I would make a round cylindrical die with a projection like this, place this shell on it, and then come down with a punch of this configuration, and then hammer it down

106 to bring the two together with the object to be worked upon or formed between.

44 X Q. Could you not produce the projection such as is formed on the cover on that box with a die similar to the one which you have testified you made for Mr. Weber?

A. Yes, sir.

The box which was shown to the witness, referred to in X Q. 42 is the one marked Defendant's Exhibit, Fitch & Marsh Watch Movement Box, Patent No. 545,225.

Deposition closed.

FREDERIC ECAUBERT.

Attest:

F. M. ADAMS, *Ex'r.*

107 *Stipulation.*

United States District Court, District of New Jersey.

In Equity.

WEBER ELECTRIC COMPANY

vs.

E. H. FREEMAN ELECTRIC CO.

On Patent No. 743,206.

It is hereby stipulated and agreed by and between counsel for the respective parties that August Weber, Jr., Chauncey L. Hight, William P. Robb, Timothy J. Sullivan, if called and sworn as witnesses on behalf of the Complainant herein, would testify respectively as appears in the annexed copies of depositions given by them respectively, by the said August Weber, Jr., in the United States District Court for the District of Massachusetts, in Weber Electric Company vs. Wirt Manufacturing Company, in equity on patent No. 743,206, and the said Hight, Robb and Sullivan in the United States District Court for the Southern District of New York, in Weber Electric Company vs. National Gas & Electric Fixture Company, in equity on patent No. 743,206; that the annexed copies are correct copies of the said depositions and that they may be offered and used herein with the same force and effect as though separately taken and introduced in this cause; and that the several exhibits offered in evidence by either party referred to in said depositions may be offered and used in evidence herein with the same force and effect as though proved herein by like evidence.

FRANK C. CURTIS,
Counsel for Complainant.
D. P. WOLHAUPTER,
Counsel for Defendant.

Troy, N. Y., January 26, 1914.

108 AUGUST WEBER, JR., a witness called on behalf of the complainant and first duly sworn, testifies as follows:

Examined by Mr. Curtis:

Q. 1. What is your name, age, residence and occupation?
A. August Weber, Jr., age 42, residence, Schenectady, N. Y.; occupation, Vice-President of Weber Electric Company.

Q. 2. Are you a son of August Weber, Sr., patentee of the patent No. 743,206 in suit?

A. I am.

Q. 3. In what way were you associated with your father at the time he made the invention of the patent in suit?

A. I was very closely associated with my father at that time. In fact, there was seldom a day passed but what we did not discuss business matters, such as in connection with our porcelain works and the manufacture in general.

Q. 4. In what line of manufacture were you engaged with your father at that time?

A. At that time I had full charge of our factory at Bellevue at Schenectady, N. Y., where we manufactured principally all kinds of special *procelain* pieces for outside parties.

Q. 5. Did you manufacture anything for the General Electric Company at that time?

A. Yes. We made many different pieces for the General Electric Company.

Q. 6. Please state what you know of the facts and circumstances relating to the conception of the invention of patent No. 743,206 in suit and its embodiment in practical form?

A. Late in the year 1897, my father conceived an idea of
109 making a new fastening for the casings of electric lamp-sockets. He first showed me a shell upon which he made a couple of round bosses. One side of this boss was round and the other was filed slightly flat. We talked this over possibly a few days, and we decided that the side or the boss which had the flat filed on or cut through would make a better catch. As I recollect he then made up another shell in which one or both of the bosses were flat, his idea being to make an improvement over the first shell he showed me. After we had tried this second shell, some little time, we felt this would make a satisfactory casing for lamp-sockets and he then decided to go a little further and have a shell made from a set of tools these previous two models having been made with small hand punches. My father accordingly went to New York to see a machinist, Mr. Ecaubert, 18 Rose Street, New York City, and showed him one of these shells, the second one he had made by hand, and had him make up a small set of tools in order that we could get a line on some tool-made samples. A very short time thereafter, about the early part of 1898, we received these shells, about one-half dozen from Mr. Ecaubert, examined the same carefully and we were satisfied they would make a very satisfactory casing for an electric lamp-socket.

Q. 7. I show you two exhibits in this case and ask you if you can identify them and if so please state what each is?

A. I recognize the exhibit I have in my hand marked "Complainant's Exhibit, Weber First Hand-Made Shell," which was an exhibit in the case Weber Electric Company vs. National Gas & Electric Fixture Company, in equity on patent No. 743,206, and this is
110 the first shell made by my father the one that was shown to me by him in the latter part of 1897. The next exhibit

tagged "Weber Electric Company vs. National Gas & Electric Fixture Company, in equity on patent No. 743,206, marked "Complainant's Exhibit, Weber Second Hand-Made Shell and Cap." I recognize this as the second hand-made shell made by my father about the latter part of 1897.

Q. 8. Did you personally see the work being done on the tool made by Ecaubert?

A. I did.

Q. 9. What tests or demonstrations did you make and when with the shells which you received from Mr. Ecaubert made by the tool to which you have referred?

A. We took some caps from the then standard type socket and broke out the yokes and used the clearance holes for the screws in the above type of sockets referred to and used this cut-metal edge for or as the opening in the cap. We then snapped the shells together and found that they were perfectly satisfactory.

Q. 10. Did you make any test of said shells in connection with interior construction; if so, what?

A. Yes, we did.

Q. 11. Please explain just what these tests were?

A. We took and assembled therein the interior of a standard General Electric socket known as a 9323 type and upon which we had previously made two side grooves in the porcelain substantially diametrically opposite for the purpose of receiving the inturned tongues on the shells to prevent principally rotation of the interior when the lamp would be screwed into the socket. I have before me one of these early shells tagged an exhibit herein "January, 11 1898, Weber Snap-Shell Key Socket." Also I have in my hand another shell tagged "January, 1898, Weber Snap-Shell Keyless Socket," which is a socket or an interior made up for a keyless socket. Likewise this has the two grooves in the porcelain to receive the inturned tongues on the shell.

Q. 12. When were these snap-shell sockets tested by you with these interior constructions as you have testified?

A. They were tested very shortly after we received the shells from Mr. Ecaubert.

Q. 13. Within how many days or weeks would you say?

A. I should say possibly within two or three weeks.

Q. 14. How did you satisfy yourselves that the sockets having the notches made by the Ecaubert tool would hold sufficiently against relative rotation of the sleeve and cap?

A. We assembled these two interiors respectively in these exhibits and took an incandescent electric lamp and screwed the same into the socket in order to see that they would hold properly, and after having this way, we were perfectly satisfied that the casing was satisfactory in every way, both against longitudinal pull and against rotation.

Q. 15. I notice that the sleeve in the exhibit "January, 1898, Weber Snap-Shell Key Socket" is shorter than the sleeve in some of the other exhibits. Will you please explain this?

A. This shell in the key-socket is one that we received among a lot of others which were defective, in so far as it was cut off shorter than

the standard shell. This frequently happens in receiving
112 large shipments of shells in that there would be some defective pieces in the shipment.

Q. 16. I show you some other exhibits tagged herein respectively, "Weber Sleeve Made By Ecaubert," "Ecaubert Shell Produced by Weber," "Ecaubert Shell and Cap Produced by Weber," and ask whether you can identify these exhibits and if so, please state their history?

A. Referring to the shell Weber Electric Company vs. National Gas & Electric Fixture Company, "Complainant's Exhibit, Ecaubert Shell Produced by Weber." I recognize this as one of the shells made by the Ecaubert tool. The next tag marked "Exhibit, Weber Sleeve Made by Ecaubert," I also recognize this shell as the shell made by Ecaubert. The next shell tagged Weber Electric Company vs. National Gas & Electric Fixture Company, marked "Complainant's Exhibit, Ecaubert Shell and Cap Produced by Weber." I also recognize this shell as having been made with the Ecaubert tool.

Q. 17. When were the three shells made referred to in your last answer?

A. They were made in January, 1898.

Q. 18. Can you produce the tool made by Ecaubert about which you have testified?

A. No, I cannot.

Q. 19. Have you made any effort to locate it?

A. Yes, we have spent considerable time looking for this tool, but the same has either become misplaced or scrapped after the later tools were made.

Q. 20. I show you Complainant's Exhibits, Ecaubert Bill and Weber Check. What do you know about them?

A. Referring to the bill dated January 12, 1898, Mr. Ecau-
113 bert's job number 3253, dies for lamp-sockets, $13.80, bill having attached thereto a tag marked Weber Electric Company vs. National Gas & Electric Fixture Company, Complainant's Exhibit, Ecaubert Bill, January 12, 1898, this bill I distinctly remember having been received from Mr. Ecaubert, shortly after he completed the tools for our lamp-socket casing. Referring to the check No. 433, dated January 13, 1898, to Mr. F. Ecaubert for $13.80, I distinctly recognize as the check sent Mr. Ecaubert in payment of his bill of January 12, 1898.

Q. 21. And are you able to state positively this bill and this check refer to the tool made by Ecaubert by which the several snap-shells were made in January, 1898, as you have testified, and that the dates on these exhibits, bill and check, are the true dates of the transactions which they represent?

A. I am absolutely certain that the bill and date thereon is correct, and likewise the check with the date thereon is correct, and that they both are for the work done by Mr. Ecaubert for us on the tool he made for our snap-shell lamp-socket.

Q. 22. From the time when the several exhibits were made and when the several shells and sockets were tested by you in January 1898, to the time when they were respectively produced by you for use as evidence in the litigation of this patent No. 743,206 in suit

where were each of the following exhibits which you have identified: Weber First Hand-Made Shell, Weber Second Hand-Made Shell and Cap, Ecaubert Shell Produced by Weber, Weber Sleeve Made by Ecaubert, Ecaubert Shell and Cap Produced by Weber, January, 1898, Weber Snap-Shell Key Socket, January, 1898, Weber Snap-Shell Keyless Socket, Ecaubert Bill and Weber Check?

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A. They were locked up in our safe.

Q. 23. Was the die or tool made by Ecaubert as you have stated intended for use in making shells in quantities for the market?

A. It was not.

Q. 24. In making your tests of the snap-shells in January, 1898, did you in any case make any change in the form of the screw holes in the cap which you used as the recesses to receive the snap catches?

A. We made practically no change except that in a few samples we filed the hole in the cap parallel with the edge of the rim of the cap in order that we might get a little more or better contact at this point.

Q. 25. After demonstrating the snap-shell by testing the shells made by the Ecaubert tool, what did you do with a view to putting a lamp-socket on the market?

A. After we were satisfied that we had a thoroughly practical new casing for a lamp-socket, we started at once to develop an interior construction, and before we got very far with this work we found we had an extremely difficult problem on our hands. We fully realized that should we make an interior construction and place the same upon the market without thoroughly steering clear of an unusually large number of patents in the prior art, we would get into very serious patent litigation from the start. We felt as far as the shell was concerned, we had not much to fear, but that unless we took extraordinary precautions with the interior we would get into extra trouble along the lines of patent litigation. We made up model after model and kept continually studying the various patents of the prior art and time after time when we had an interior that we thought would be substantially free from infringement, we would go over this matter carefully with counsel, sometimes spending days at a time, and after counsel would point out to us possible sources of trouble along the litigation line, we would start out on new models continually trying to overcome the defects of former models with reference to litigation possibilities.

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Q. 26. In what way did you have the aid of counsel in your investigations of the lamp-socket art in getting your lamp-socket ready for the market?

A. We took all the patents in the prior art, studied these most carefully, going over several hundred patents and an unusually large number of claims until gradually we eliminated this one and the other, and finally we got down to a form which was so different from anything previously placed upon the market, we finally felt sure we had solved this most difficult problem. As soon as we reached this stage of our work we at once started to take out patents for both the socket-casing and the interior socket-casing.

Adjourned to August 16, 1913, at 10:00 a. m.

Met pursuant to adjournment, August 16, 1913, at 10:00 a. m. Same appearances.

Q. 26½. How long were you engaged in the development of the interior of the socket before you felt satisfied that you had a construction which could be marketed without danger of infringing
116 the patents of others?

A. I should say between three and four years.

Q. 27. What did you do when you found that you had a socket interior which you believed free from infringement?

A. We at once turned the matter over to our counsel and applied for a patent on same.

Q. 28. What was the source of livelihood of your father and brother during the period of the development of the interior of the socket as you have testified?

A. Our principal source of livelihood was the manufacture of all kinds of special porcelain pieces, these pieces being made for outside parties throughout the country.

Q. 29. And to what extent was your time necessarily occupied in that business?

A. We had a very small machine shop and which took practically all of our time in designing and making the various special porcelain moulds that were necessary in the ultimate manufacture of the porcelain pieces which we made for our various customers.

Q. 30. In the development of the interior construction whenever you found it necessary to change the shape, what was necessary before you could demonstrate the changed construction?

A. In nearly every case where a change was made in the design of the interior, it required some radical change in the porcelain moulds and in fact in this class of work in general whenever a change is made, it nearly always required a radical change in the dies or moulds, and then after the new piece was moulded it had to be dried and eventually burned in the kiln, and it frequently happened
117 and did happen in our case, that a kiln would be burned on one day in the week and possibly the changed porcelain from the new mould would not be completed until a day or two after a kiln had just been fired, and this would of course necessitate our waiting until the next kiln came through and in those days we only had one porcelain kiln and as it required a great deal of material to fill this large kiln, which incidentally was 15 feet in diameter, it was frequently a couple of weeks before the next kiln was burned, and, of course, we could not assemble our next porcelain model until we had our porcelain pieces from the kiln.

Q. 31. From the time you demonstrated the shells made by the Ecaubert tool in January, 1898, up to the time of the filing of the application for the patent No. 743,206 in suit, did you ever have any intention or did your brother or father express or indicate any intention of abandoning the invention as embodied in said shells and said application?

A. None whatever, in fact directly we found we had what we felt was a new and satisfactory casing for lamp-sockets; we all of us

tarted to work on the interior for the socket and kept at this work onstantly up to the time we filed our application for the socket.

Q. 32. At the time your father made the invention of the snap-hell as you have testified, what types of socket-fastenings were em-loyed commercially and to what relative extent?

A. To my recollection substantially all socket-fastenings were put ogether with side-screws, with this exception, however, the General Electric Company made what was known as a No. 1 Keyless 18 socket and a No. 2 Key-socket, each of which had a rubber ring with two screws used on the cap for holding the interior orcelain to the cap. The sockets at the time we made our inven-on were considered a back number and were superseded at that time y the General Electric Company with a keyless socket having a base orcelain which porcelain had two small indentations on its end ear the cap side of the socket which indentations were for the pur-ose of receiving the ends of the side-screws in the Lange type stening. There were also some sockets made known as the elec-olier type in which the shell had a fine thread cut in one end and he cap was made from solid stock on a screw machine with the hread cut on the flange of the cap. There may also have been a mall number of sockets made about that time, but which we never new a great deal about. At the time of the invention of our lamp-sing, it is my recollection that a great bulk of sockets made in the ountry used side-screw fastenings.

Cross-examination.

By Mr. Roberts:

X Q. 33. Do you know anything about the beginning of the in-ntion of your father of the socket shell shown in the patent No. 3,206?

A. Yes, I do.

X Q. 34. Will you state, if you know, what led him to develop the ap-catch for the purpose of holding together the cap and sleeve of amp-socket?

A. I know this. That ever since the development of the lamp-cket away back in the early eighties, we have always been more or less interested in connection with this work. My father was 9 originally, as I recollect about 1888, or possibly earlier, Superintendent for Bergmann & Company, New York City. this time Mr. Bergmann was the sole licensee for making electrical mp-sockets for Thomas A. Edison. And I can distinctly recollect ile I was serving my time as a machinist in New York City, and en earlier when I was going to the public schools in New York, father was always working evenings on improvements for the ly types of incandescent electric lamp-sockets such as were then nufactured by Bergmann & Company. I well recollect how we en used to take apart these early sockets and count the number screws in same. From time to time in the development of this , he would bring home new designs and new models showing how

these small screws were gradually eliminated and how the socket in general was improved, both electrically and mechanically. I am speaking now principally of the early socket. I recollect distinctly how much trouble we used to have with the shell fastenings in those days. In the early type of Bergmann socket there were two screw fastenings on the rear side of the cap which were used for fastening the interior of the socket to the cap, and then the shell was put over the interior and what was known as a rubber ring was screwed on over the lamp-receiving screw-shell until this ring was screwed on tight enough to clamp the outer shell against the cap of the socket; these rings were made in large quantities and were the standard type of construction for lamp-sockets and were used for many years.

However, they gave lots of trouble, due to breakage; in fact,
120 the trouble got so great at one time we started to use large quantities of porcelain rings, and these were imported from Germany. When these porcelain rings were used for fastening the shell to the cap, they did not give the trouble which we had with the rubber rings, which trouble was to a large extent softening. However, the porcelain ring could not be controlled, as far as the thread was concerned with reference to uniformity, and ultimately this was abandoned to a large extent. Later, types of fastening between shell and cap were used whereby a thread was spun or cut on the shell and cap, and the two were screwed together. About 1890 the Edison General Electric Company was formed and the Bergmann factories in New York came to Schenectady, and in these years rubber rings and porcelain rings were used for fastenings, and also some other types with cut threads on the shell parts of some sockets. Gradually, however, a change was made in the type of fastening known as the Lange type which employed a yoke in the cap in connection with two side-screws that went through the cap into the yoke and this gradually got to be the standard type of socket-fastening and had substantially remained so until the introduction of the Weber snap-shell socket, which in turn was largely revolutionized in the art of fastening socket shells and caps together. During all these years my father was intimately connected with this business and doubtless due to the troubles we had with screws falling out in shipments and general complaints of the shells coming loose from the caps, he had im-

pressed upon his mind the necessity of some ultimate form of
121 fastening which would be superior to the side screws. Other than this experience which he had, I do not know where he conceived his idea embodied in patent No. 743,206.

X Q. 35. That is to say, you not know where he got the idea of the snap catch for holding together the cap and sleeve of a lamp-socket, is that so?

A. Other than from the impression or necessity which he must have experienced from my last answer, I do not know where he got the idea.

X Q. 36. Do you know anything in regard to the shrinkage which takes place in porcelain parts during the firing or burning process; if so, please to state how much such porcelain parts shrink beneath their size when they are taken from the mould?

A. This question of shrinkage is a very variable one in the porcelain business. In the first place, the shrinkage of porcelain itself, I speak now of the body or mixture we use, is approximately fifteen times that of the shrinkage of cast-iron. In our body or mixture the shrinkage for average pieces would be in the neighborhood of .150 of an inch per inch, then in addition to this shrinkage which is based on the assumption that a piece comes from the kiln perfect, we have a shrinkage or variation which no one in the art can control, due to the various conditions in a kiln during burning. By these conditions during burning I mean the changes that take place as to whether the fire is oxidizing or reducing; in other words, we have to judge largely of the part of the kiln in which we place various work as to whether we will get more or less of this extra variation of which I have spoken.

122 X Q. 37. Do you know anything of the manner of manufacturing the insulating linings such as are made of paper or fibre so-called?

A. The material itself only in a general way. We do not manufacture this material ourselves.

X Q. 38. You have stated you tested the experimental socket-shells which were made by Ecaubert by putting a base with a screw socket attached into the shell and screwing in a lamp. Is that all the tests which you ever made in these early socket-shells.

A. To my recollection it is.

X Q. 39. Did your father or subsequently the Weber Company ever put upon the market sockets with shells like those which you have produced as having been made by Ecaubert, like "Complainant's Exhibit, Shell, Made by Ecaubert"?

A. Not exactly like this shell.

X Q. 40. Has your company ever put upon the market lamp-sockets like those described and shown in the specification and drawings of patent No. 743,206 here in suit, provided with grooves and tongues like those illustrated in Figs. 1 and 2 and marked respectively 16 and 15?

A. With certain modifications I understand what we marketed was like our patent No. 743,206.

X Q. 41. My question intended to relate specifically to the form of tongues and grooves referred to as shown in the drawing.

A. I should say not exactly like this drawing.

X Q. 42. The means for engagement between the porcelain base and sleeve in the sockets which you have put upon the market have been like those in Defendant's Exhibit, Weber Commercial Socket, have they not?

A. I believe they have.

123 X Q. 43. When did you put upon the market sockets with cap and shell like those described and shown in Weber patent No. 916,812?

A. As I recollect, about the fall of 1904.

X Q. 44. To whom did you sell sockets with the peculiarities of construction such as shown and described in the Weber patent last referred to?

A. I should say to our Mr. Henry D. Sears, of Boston, Mass. It is rather difficult for me to state much more than this as I do not have much to do with the billing and shipment in the factory; my brother, Mr. John Weber, would know more about this than myself.

X Q. 15. How long has Mr. H. D. Sears been the Boston selling agent for your sockets?

A. Ever since we first placed lamp-sockets on the market.

Redirect examination.

By Mr. Curtis:

R. D. Q. 46. I show you Complainant's Exhibit, Wilhelm Drawing. If you recognize this, please state what it represents?

A. I fully recognize this drawing as of the die or tool which Mr. Ecaubert of New York City made for us in connection with the shells which are exhibits in this case.

Deposition closed.

AUGUST WEBER, JR.

124 CHAUNCEY L. HIGHT, a witness called on behalf of the complainant, having been first duly sworn, deposes and says in answer to interrogatories propounded to him, as follows:

Direct examination.

By Mr. Curtis:

Q. 1. What is your name, age, residence and occupation?

A. Chauncey L. Hight; residence, Plainfield, New Jersey; age 34; occupation, manager New York Office of Henry D. Sears.

Q. 2. What is the business in which Mr. Sears is engaged?

A. Mr. Sears sells the output of the Weber Electric Company's factory.

Q. 3. For how long have you been connected with the electrical business?

A. About 16 years.

Q. 4. Please state your general experience in the electrical business; I mean by that the different lines you have worked at?

A. I have been connected with the electrical contracting and repair business; I have been connected with the electrical jobbing business for the sale of electrical material; I have also been connected with the manufacture of electrical materials in the sales department. That practically covers the whole thing.

Q. 5. In what way have you had opportunity to observe, manipulate and assemble and wire incandescent electric lamp sockets?

A. During my connection with the electrical contracting and repair business I have many times been called upon to install electric lamp sockets, also to make repairs on electric lamp sockets. I have used electric lamp sockets in connection with cord drops and

electric light fixtures. I have also had experience in selling
125 electric lamp sockets of all kinds.

Q. 6. In making these repairs and installations have you ever personally done the work yourself?

A. I have.

Q. 7. When did the Weber snap shell socket first come to your attention?

A. I believe it was in the year 1904.

Q. 8. Prior to that time how were the shells of lamp sockets fastened together, as the same came within your experience?

A. Previous to the Weber socket having come on the market I had seen and used nothing but sockets in which the two parts of the shell were held together by screws.

Q. 9. I show you complainant's Exhibit Langetype socket, and ask you whether this exhibit has the screw fastenings to which you have just referred?

A. It has.

Q. 10. Since what time have you been connected with the sale of Weber sockets?

A. I have been connected with the sale of Weber sockets from the very first of the Weber sockets being put on the market; in fact, the first sample that I had was a hand-made sample, it was not until about two or three months after that that we actually had sockets to sell.

Q. 11. Please state the effect upon the trade in sockets of the placing of the Weber snap shell socket upon the market?

A. All sockets previous to the time that the Weber socket was put on the market were the sockets with screws. Immediately following the advent of the Weber socket it became popular with fixture houses and contractors, also engineers who had in
126 charge the lighting devices in public buildings and places where they had their own electric light plant. The fixture men appreciated the arrangement of holding the two parts of the shell together, because of the fact that it was possible for them to install the sockets on fixtures much more easily, and especially in cases where it was necessary for him to install the sockets in a socket cover or husk. These socket covers and husks very often acted as shade holders and were used also as a decoration to the fixture. It was practically impossible for the fixture manufacturer to install the sockets with screws, in these socket covers or husks, without going to the trouble of drilling holes so as to be able to set up the screws on the sides of the old sockets; where, with the Weber socket, it was only necessary to push the shell into the cap and the two parts of the shell were locked securely in place. The engineer in isolated plants and public buildings at once appreciated the snap shell socket because of the fact that in many places where sockets had been used in connection with extension cords and such devices the shells would become loosened and many times lost. Then the current-carrying parts of the socket would be exposed and a person using them would be very apt to get a shock in screwing in the lamp or a plug. This difficulty was overcome by the

snap shell socket, owing to the fact that there were no screws to work loose from vibration or constant handling, and these shells would remain in position under almost any use. In case of the electric contractor, who was continuously doing work in factories and mills, the snap shell socket was a great thing for him
127 because of the immense vibration or the great amount of vibration in these factories and mills, especially in cotton mills, woolen mills, etc. In these places the vibration would work the screws loose, the shades would drop down, and, in many places, caused a great deal of trouble. The snap shell socket overcame these difficulties, so that at the present time they have very little trouble with the shells coming apart because of vibration or constant handling. The jobbing house which previous to the time of the Weber socket coming on the market had carried in stock and sold nothing but sockets with screws, immediately found that there was a demand for the snap shell socket. This demand coming from fixture manufacturers, contractors and isolated plants, its stock therefore went through somewhat of a change, and, at the present time and even for the past three years, the jobber has carried very little of any other kind of socket than the snap shell. Today his stock is composed wholly of sockets with snap shells. The fixture manufacturer who previous to the time of the Weber socket coming on the market had used nothing but sockets with screws, today practically uses nothing but snap shell sockets. This is true also of the contractors and isolated plants.

Q. 12. Are you able to state whether or not this condition as to the present exclusive sale of snap shell sockets is general throughout the country?

A. It is general throughout the country.

Q. 13. In what way did the competitors of the Weber Company meet the demand for the snap shell socket?

A. At first the competitors paid very little attention to
128 the Weber socket; but, after we had been able to demonstrate this socket to some of the more important fixture manufacturers, engineers and contractors, they started in to try and show these people that a device in the way of a socket, the two parts of which were held together by cut metal edges, was not a success. Many times I have known of representatives of the competitors of Weber abusing the Weber socket by bending the metal into such form that the catches would not hook in place and thereby would pull off easily. I have also known of them bending the hooking devices themselves so that they would easily let go, and, in every way possible, they tried to discredit the holding qualities of the snap shell. One of the manufacturers produced some literature in the way of a flyer, stating that any socket the two parts of which were held together by any other means than the screws, was not and could not be a success.

Q. 14. Can you produce that flyer?

A. I can and I do.

Q. 15. That was the flyer dated 1905?

A. Yes, sir.

Paper produced by the witness is offered in evidence and marked Complainant's Exhibit G. E. Flyer No. 2163.

Q. 16. This flyer bears date 1905; do you know whether or not it was sent out in that year?

A. It was.

Q. 17. To what use did the representatives or salesmen of your competitors put the Weber sockets which they had abused by bending the parts so that the catches would not hold properly?

A. They used them in an attempt to demonstrate to the fixture manufacturer, contractor and isolated plant, that a socket having the snap shell was not a success.

Q. 18. In what way did the competitors of the Weber Company respond to the demand for the snap shell socket?

A. When they found that it was impossible for them to turn the user of sockets from the Weber by trying to prove to them that it was not a successful arrangement, they immediately started in to make some kind of a device that would overcome their own difficulties and put them nearer in a class with the Weber socket. The first arrangement that they made was an addition to the Lange-type socket of two punchings placed in the shell of their socket in connection with their screws. The punchings were intended to prevent the shell from tipping sideways and also to prevent it from pulling out should the screws become loosened. This was, in some ways, an improvement over the socket which had only the screws, but, the screws themselves, were still a disadvantage in using the socket in husks and socket covers, as they still had to be tightened and this either had to be done with an off-set screwdriver or by boring holes through the socket cover or husk in order to get at the screws and tighten them, so that the shell would stay together. Very soon afterwards the General Electric Company produced a complete snap shell socket which was known at that time as the Security Snap Shell Socket. The other manufacturers soon followed with this same type.

Q. 19. I show you Complainant's Exhibit 9386 socket, and, ask you whether or not this shows the punchings made in the Lange-type socket to which you referred in the first part of your last preceding answer?

A. It does.

Q. 20. Did any of the other manufacturers adopt this addition to the 9386 or Lange-type of socket?

A. Yes, several of them.

Q. 21. Please state the effect which the introduction of the Weber snap shell socket had upon the construction of wall sockets?

A. Previous to the advent of the Weber snap shell sockets all wall sockets had been made with a one-piece porcelain—the base and the interior of one piece. It was absolutely impossible to change a wall socket from a key to a keyless or pull socket. The wall sockets at that time were quite generally used, and, more particularly, as receptacles for extension cords and portable lamps, and, for that use, received a great deal of handling. It was a very ordinary

thing to find these wall sockets with the shells gone and current-carrying parts absolutely exposed; and, persons in using these screwing in and out the attachment or extension plugs, were in danger of getting shocks. The Weber wall socket was the first to be made in such a way that the interior could be changed from a key to a keyless; or vice versa. The snap shell arrangement also overcame, to a great extent, the dropping off of the shell, and, the constant use did not affect the snap shell socket nearly as much as it did the socket with the screws. The reason that I state that the Weber socket largely overcame this trouble is because of the great amount of use—and many times abuse—of wall sockets which are

131 placed in accessible positions and places where they are very apt to be struck by moving furniture and things of that sort. Under this kind of a treatment no sort of an arrangement for holding the shells together could possibly stand. A further trouble that I discovered—and which was overcome by the snap shell socket—was this: when the shell had become loose, or, had dropped off and had been placed on a shelf or in a drawer out of the way, the weight of the plug and cord would very often hold the screw shell or shell that holds the lamp and plug, away from the contact piece, and many times I have been called upon to repair a receptacle which I found in this condition where, if the shell had remained on the receptacle, the screw shell would not have been pulled out of place as it would have had the extra support of the brass or outer shell and lining.

Q. 22. How were the shells fastened on the wall receptacles of the type which preceded the introduction of the Weber socket?

A. The porcelain base held a piece of metal in which was a screw. The shell was passed down over and the slot went over this screw and the screw tightened down so that it would hold the shell from dropping off, providing the workman did not strip the thread of the screw in tightening it.

Q. 23. How did that screw fastening correspond with the screw fastening of the Lange-type socket?

A. It did not have the yoke into which the screws are put on the Lange-type of socket, it simply had a piece of metal that was attached to the porcelain base into which the screw went.

Q. 24. To what extent has the snap fastened socket displaced or superseded the screw fastened type of socket in wall

132 sockets?

A. There are very few of the wall sockets with screws used today. Practically all wall sockets are made with the snap fastening.

Q. 25. Can you produce a cut or picture of the earlier type of wall sockets to which you have just referred?

A. I have and do.

The paper produced by the witness is offered in evidence and marked Complainant's Exhibit G. E. Flyer 2178.

Q. 26. This flyer bears the date 1906; can you state whether it was put out in that year?

A. Yes, it was.

Q. 27. What is the standing of Stanley & Patterson among jobbers of electrical goods in this country, as to size and importance of their business?

A. They are considered to be one of the largest electrical supply houses in the United States.

Q. 28. What is the standing and importance of the Mitchel-Vance Company among chandelier and fixture manufacturers?

A. The Mitchell-Vance Company is considered to be the oldest and largest manufacturer of high-grade fixtures in the United States.

Q. 29. What can you say as to the sockets which were advertised in the trade papers prior to the introduction of the Weber snap socket and those advertised today?

A. The manufacturers of sockets previous to the time the Weber socket came on the market did very little advertising. When
133 the Weber socket began to be popular they then started to advertise their socket with screws; and, at that time, these manufacturers showed no cuts and gave no numbers of anything except the socket with screws. Today, however, all of the manufacturers of sockets advertise only sockets with snap shells.

Q. 30. Will you produce a wall socket made with a snap catch concerning which you testified in one of your recent answers?

A. I can and I do.

Wall socket produced by witness is offered in evidence and marked "Complainant's Exhibit Snap Shell Key Wall Socket."

Cross-examination.

By Mr. Lowthorp:

X Q. 31. When did you first become connected in a business way with the complainant in this suit?

A. To the best of my recollection, it was in October, 1904.

X Q. 32. Was that before or after you had first seen the Complainant's snap shell socket?

A. After I had seen them.

X Q. 33. How long after?

A. About three weeks.

X Q. 34. Please describe the type or sample of socket casing with the snap and lock devices between the cap and shell which you say you first saw and which was hand made?

A. The shell of the first sample of the Weber socket that I saw had two projecting noses to prevent a separation of the shell and cap after the shell had been put into the cap. The cap had
134 two punched openings to receive the two projecting noses. The shell also had an oblong cut punched piece projecting outward which was received by a similar shaped opening on the cap to prevent a lateral movement or to prevent the shell from turning inside the cap; in fact, the sample that I had at that time was similar to the sample used in evidence, only that that was a key socket where this is an ordinary key wall socket.

X Q. 35. Do you refer in your answer to complainant's exhib
snap shell key wall socket?

A. I do.

X Q. 36. Please examine that exhibit and state whether or n
the noses that you speak of were formed like these rounded pr
jections with cut metal edge in the shell of that exhibit?

A. They are the same.

X Q. 37. And what of the other fastenings intended to preve
lateral movement? Were they similar to that disclosed in this e
hibit?

A. They are exactly the same shape.

Cross-examination closed.

Deposition closed.

Signature waived.

135 JAMES T. ROBB, a witness called on behalf of the complai
ant, having been duly sworn, testified as follows:

Examined by Mr. Curtis:

Q. 1. What is your name, residence and occupation?

A. James T. Robb, residence, 1829 Caton avenue, Flatbus
secretary and general manager of Mitchell, Vance & Co.

Q. 2. What is the nature of the business of Mitchell, Vance
Company?

A. Manufacturers of electric lighting fixtures.

Q. 3. How long have you been engaged in that business?

A. Since it started, about thirty years ago.

Q. 4. I understand from your answer that the manufacture
electric fixtures began about thirty years ago and that you have be
connected with their manufacture ever since that time, is that c
rect?

A. That is correct.

Q. 5. What is the standing of Mitchell, Vance & Company in t
line of business with regard to size or importance in the trade?

A. I believe they are the largest producers in this country of el
tric fixtures which use electric trimmings.

Q. 6. In connection with your business do you have occasion
use incandescent electric lamp sockets?

A. We do.

Q. 7. About how many do you use a year?

A. About one hundred and fifty thousand.

Q. 8. In what maner do the case members of these sockets whi
you now use lock together or fasten together?

A. With a snap catch.

Q. 9. About how long have you been using sockets with the sn
catch?

136 A. About six or seven years, since they began to sell the
about 1905, that is only from memory.

Q. 10. Prior to the time when you first began to use the sn

catch socket how were the cases of the sockets used by you fastened together?

A. With two screws.

Q. 11. I show you complainant's Exhibit Lange-style socket and I ask whether you recognize this as having the same screw fastening as the sockets which you used prior to the introduction of the snap shell socket?

A. I do.

Q. 12. Please state how you came to take up the snap shell type of socket in place of the screw and slot fastened socket like this Lange-style socket?

A. We were having so much trouble caused by the weight of the shade fastened to the front of sleeve of the socket pulling the cover off, then the sleeve would fall down on the floor.

Q. 13. What, if any, advantages did you find in the snap shell type of socket over the old screw and slot type either in use or in assembling?

A. When the new socket is used in a husk it does not require two holes in the husk, one on either side, to get at the binding screw and the trouble caused by the sleeve dropping off was eliminated, the snap catch being more reliable.

Q. 14. How did you find the snap shell socket to be received by the trade in general with which you were brought in contact?

A. I can hardly speak for the trade in general, but the Mitchell, Vance & Company immediately adopted the new method and has continued using it ever since.

137 Q. 15. Do you now still use any sockets except the snap catch socket?

A. Yes, a few where an old specification calls for them.

Q. 16. About how many of these screw fastened sockets do you still use?

A. About a thousand a year.

Q. 17. Are the screw fastened sockets which you still use provided with any other fastening device than screws?

A. Yes, they are reinforced by two small snaps.

Q. 18. I show you a socket marked Complainant's Exhibit No. 9386 socket and ask whether you recognize this as a socket having the screw and slot fastening with the addition of the two snaps to which you have referred?

A. I do.

Q. 19. Then as I understand it you use approximately a thousand sockets a year like this 9386 socket and all the rest that you use are of the merely snap catch type without the screws?

A. That is correct.

Cross-examined.

By Mr. Lowthrop:

X Q. 20. What was the cause of the frequent falling of the shade attached to these old fashioned sockets?

A. I presume that when they were cleaning them they loosened the sleeve.

X Q. 21. This was a trouble you did not experience yourself but one which was experienced by the purchasers of your goods and reported to your concern?

A. Yes.

X Q. 22. And you do not, in fact, know what the cause of the falling off of the shade or the loosening of the sleeve was due to, is that the fact?

A. It is.

138 X Q. 23. What means, if any, are now being taken to prevent the pulling off of the sleeve with the shade when used in combination with these sockets?

A. In most cases none, depending entirely on the snap.

X Q. 24. In what cases do they depend on other means than the snap for sustaining the shade?

A. In Government work and fixtures having very heavy glass *wear* and cases where the specifications from architects call for the globe holder to be put on the nozzle of the fixture instead of the socket case.

X Q. 25. The nozzle you refer to is centrally located in the cap, is it not?

A. Above the cap.

X Q. 26. Are you familiar with the different varieties of snap catch socket casings put out by different manufacturers and in general use today?

A. Yes.

X Q. 27. There are quite a number of different snap catches for these lamp sockets on the market today, are there not?

A. Yes.

X Q. 28. And have been for some time back?

A. Yes.

Redirect examination.

By Mr. Curtis:

R. D. Q. 29. Does or does not the special means for supporting the shade holder add to the expense of the fixture over that where the snap catches alone are relied upon?

A. It does quite considerably.

R. D. Q. 30. Does the use of such special supporting devices eliminate the difficulty of getting access to the fastening screws where a screw fastened socket is used, or is the husk still provided with

139 the openings through which the screws can be reached in such cases?

A. It does not eliminate this difficulty; the holes must still be used in the case of a screw fastened socket.

R. D. Q. 31. Was there much or little complaint in your trade about the old fashioned socket?

—. Well, there was quite a good deal of complaint in general.

R. D. Q. 32. —.

—. ——.

R. D. Q. 33. What make of snap fastened socket first came to your attention and was used by you?

A. The Weber.

R. D. Q. 34. And are you still a large user of Weber sockets?

A. Yes.

Deposition closed.

JAMES T. ROBB.

140 TIMOTHY J. SULLIVAN, a witness called on behalf of the complainant, having been duly sworn, testified as follows:

Examined by Mr. Curtis:

Q. 1. What is your name, age, residence and occupation?

A. My name is Timothy J. Sullivan. I live at 601 West 182nd street. I am the superintendent of the Black & Boyd Manufacturing Co.

Q. 2. What is the nature of the business of the Black & Boyd Manufacturing Co.?

A. Manufacturers of lighting fixtures.

Q. 3. Do they manufacture electric lighting fixtures?

A. They do.

Q. 4. And is this in large or small quantities?

A. Large quantities.

Q. 5. How long have you been engaged in that business?

A. Ever since *its* inception of the electric lighting business.

Q. 6. And how long have you been engaged with Black & Boyd Manufacturing Co.?

A. I think in September, 1895.

Q. 7. In connection with your business do you have occasion to use incandescent electric lamp sockets?

A. I do.

Q. 8. Do you use these in large or small quantities?

A. In large quantities I should consider.

Q. 9. About how many thousand sockets does your company use in a year?

A. On an average from 75,000 to 80,000.

Q. 10. In the sockets which you are now using how do the case members fasten or lock together?

A. By a snap movement.

141 Q. 11. When did you first begin to use sockets having a snap fastening?

A. About eight years ago.

Q. 12. What kind of fastening did the sockets have which you used before you first used the snap fastening sockets?

A. They were fastened by the means of two screws and the screws were set up by the screwdriver to hold the parts together.

Q. 13. I hand you Complainant's Exhibit Lange-Type Socket

and ask you if this socket has the sort of screw fastening to which you have just referred?

A. It has.

Q. 14. Please state how you came to take up the snap shell type of socket in place of those fastened by screws and slots like this Lange style socket?

A. A gentleman called in our factory and showed me a socket which was held in place by the means of no screw at all on the outside shell, and after he had seen me two or three times I gave him a small order to try the merits of the socket, and after giving it a thorough trial in learning that it had merits the other sockets heretofore in use had not I then began to give him orders for snap shell sockets.

Q. 15. What were the objectionable features of the old screw and slot fastened socket which were overcome by the snap shell socket?

A. In the manufacture of ornamental fixtures for private residences and fixtures of that order the sockets were sometimes in a case or covering and in order to place the socket then in use we found it a great difficulty in tightening the screw in the side of the socket this was obviated by use of the no screw or snap shell socket.

142 Q. 16. What, if any, objectionable features of the screw and slot fastened socket were overcome by the snap shell socket in the use of the sockets with shade holders, etc.?

A. We found that by the use of the snap shell socket the shells would be held more securely in place, as vibration many times causes the side screws to become loose and the socket shells to fall apart.

Q. 17. Do you now use any sockets with the screw and slot fastening?

A. No, sir; very seldom; the only socket that we use that has the screw shell socket is the three way socket; it is a special type of socket.

Q. 18. What make of snap shell socket first came to your attention and was used by you?

A. The Weber socket.

Q. 19. And did you thereafter continue to use Weber sockets?

A. Yes, sir.

Q. 20. And do you still use them in large quantities?

Question objected to by defendant's counsel as leading.

A. Yes.

No cross-examination.

Deposition closed.

TIMOTHY J. SULLIVAN.

Counsel for complainant offers in evidence the socket marked Complainant's Exhibit No. 9386 Socket, referred to in Q. 18 of the deposition of witness Robb.

43 United States District Court, District of New Jersey.

In Equity.

WEBER ELECTRIC COMPANY

vs.

E. H. FREEMAN ELECTRIC CO.

On Patent No. 743,206.

epositions Taken in Rebuttal on Behalf of Complainant under the Order of the Court and under the Statute Pursuant to the Annexed Notice at the Office of Frank C. Curtis, Cannon Place, Troy N. Y., before Rose A. Leduc, a Notary Public, on the 26th Day of January, 1914.

Present:

Frank C. Curtis, Esq., Counsel for Complainant.
David P. Wolhaupter, Esq., Counsel for Defendant.

44 JOHN WEBER, a witness called on behalf of the Complainant and first duly sworn, testified as follows:

It is hereby stipulated by and between counsel for the respective rties that the following direct examination of the witness is a cor- t copy of his direct deposition heretofore taken in the copending tion in the United States District Court for the District of Massa- usetts of Weber Electric Company vs. Wirt Manufacturing Com- ny on Patent No. 743,206, and that said direct deposition may be ered and received in evidence herein with the same force and ef- t as though separately taken herein, and that the witness would der direct examination herein testify to the same effect as in said evious deposition.

Counsel for Complainant offers in evidence the foregoing stipula- n and the direct deposition of the witness, John Weber, therein erred to, and also offers in evidence each of the exhibits referred in said direct deposition, which exhibits are marked herein with title of this cause, and with the respective titles under which y were heretofore offered in evidence in said deposition.

JOHN WEBER, a witness called on behalf of the complainant and t duly sworn, testified as follows:

Examined by Mr. Curtis:

Q. 1. What is your name, age, residence and occupation?
A. John Weber, age 38, residence Schenectady, N. Y., Secretary and Treasurer of Weber Electric Company.

Q. 2. Are you a son of August Weber, Sr., patentee of patent No. 743,206 in suit?

A. I am.

Q. 3. In what way were you associated with your father at the time he made the invention of said patent in suit?

A. I was associated with him in a business way and we talked matters over daily.

Q. 4. In what business were you engaged at that time?

A. We were engaged in the manufacture of incandescent electric lamp-sockets and wiring devices in general, also in the manufacture of porcelain for such devices and special designs for other purposes.

Q. 5. Please state what you know of the facts and circumstances connected with the conception of the invention of said patent No. 743,206, and its embodiment in practical form?

A. Late in the year 1897 my father stated to me that he had a new method for holding together the shell and cap members of an incandescent electric lamp-socket and that he would make up a model showing what his idea was. A few days later he showed me this model which is the one I have before me marked "Complainant's Exhibit, Weber First Hand-Made Shell." One of the holding projections is round in form and the one opposite was filed flat on the under side so as to produce a square or cut-metal edge. We agreed that this would be the better type of catch and he made another model which he showed me a few days later in which
146 both the catches were made with the square or cut-metal edges just referred to. This shell I have before me and is the one just referred to and is marked "Weber Second Hand-Made Shell and Cap." Being satisfied that this was a good construction and due to the difficulty of making up these shells by hand and having the projections in proper line, we decided to have a tool made up for the purpose of producing all of the piercings and projections that were necessary and decided that he would have this tool made up by Mr. F. Ecaubert, a friend of his, who conducted a machine shop in New York City. He went down to see him late in the year 1897, gave him an order to make up this tool, which was completed early in the year 1898, and shortly after he called on Mr. Ecaubert and examined the few shells which had been made by this tool and found them to be satisfactory. I have before me a shell and cap tagged "Ecaubert Shell and Cap produced by Weber," which is one that was produced by this tool. The tool and a few of the shells were then shipped to us at Schenectady and bill rendered for same dated January 12, 1898, and tagged "Complainant's Exhibit, Ecaubert Bill." My father promptly paid this bill by check dated January 13, 1898, and I produce same herewith, which is marked "Complainant's Exhibit, Weber Check." This check is already an exhibit in the case and the bill to which I referred is also an exhibit herein marked "Complainant's Exhibit, Ecaubert Bill." I also have before me another shell which was produced by this tool and is
147 marked "Complainant's Exhibit, Ecaubert Shell produced by Weber."

Q. 6. What personal knowledge have you as to the time when this

exhibit, Ecaubert Bill, was rendered and the time when it was paid by the exhibit, Weber Check, with reference to the dates which they respectively bear?

A. It was customary for my father, brother and myself to check over all bills received, especially those which came from Mr. Ecaubert, as he was at that time making porcelain moulds for us, and we were very anxious at all times to learn the cost of same, and in regard to the circumstances connected with this particular bill for shells, we decided to file the same together with the check referred to carefully so that we would be in a position to produce the same at any time in the future if it became necessary to do so.

Q. 7. And are you able to state positively that the dates which said bill and check bear are the correct dates of the transactions which they represent as testified by you?

A. I am.

Q. 8. Please state what tests and demonstration if any were made by you or your father or your brother of shells made with the tool obtained from Mr. Ecaubert as you have stated?

A. Directly upon receipt of the tool, tests were made in the presence of my father, brother and myself, by taking these shells and caps and inserting a General Electric socket body and screwing a lamp into same. We were all satisfied that this was a practical and satisfactory construction and one which had considerable merit.

Q. 9. Can you produce any exhibits or sockets having such
148 a General Electric interior and which were so tested at the time stated by you?

A. I can. I have two sockets, one a key and the other a keyless. These were tested by us at the time and in the manner stated above.

Q. 10. What, if any, change did you make in the interior construction of the General Electric socket to enable you to make such tests with these shells made with the Ecaubert tools?

A. We cut away a portion of the porcelain to form a recess into which the introverted tongues on the shell could engage same in order to prevent the rotation of the body in the shell when the lamp was screwed into same.

Counsel for complainant offers in evidence the keyless socket including the shell, cap and interior construction and the same is marked "Complainant's Exhibit, January, 1898, Weber Snap-Shell Keyless Socket."

Q. 11. With reference to the key socket which you produced in your next to last answer, why is the sleeve made shorter than the sleeve in the keyless socket which you at the same time produced, and shorter than the sleeves of the various other exhibits to which you have referred, as made with the Ecaubert tool?

A. In obtaining shells for making up the various samples with snap-catches, we had to use what few shells we could find in shipments received from time to time that either had no piercings in them whatever or were imperfect in other ways, and in this
149 present case we used a rubber ring in practically the same way as sockets that were made at that time. This ring was

used for the purpose of insulation between the outside shell and the screw-shell.

Q. 12. Was any similar device used for insulating the keyless socket which you produced in answer to Q. 9?

A. Yes. In this type of socket there was a small band of fibre used which was sprung in at the beaded end of the shell which is now an exhibit.

Counsel for complainant offers in evidence the key socket produced by the witness in answer to Q. 9, and the same is marked "Complainant's Exhibit, January, 1898, Weber Snap-Shell Key Socket," including the interior and insulating ring.

Q. 13. Was the tool which you had made by Ecaubert so constructed that the piercings and punchings in the sleeve could be made in only one angular relationship to each other, or could the angular arrangement be varied as you might desire?

A. It was so constructed that the angular arrangement could be varied as desired.

Q. 14. Did you in making your tests and demonstrations of this invention have the punchings and piercings in always the same angular relation or did you vary this angular relation?

A. This angular relation varied in the different samples.

Q. 15. Referring to the "January, 1898, Weber Snap-Shell Key Socket," I notice a slight indentation just at the right of each
150 of the snap catches on the sleeve. Will you please explain the cause of those indentations if you know it?

A. As I stated in one of my previous answers, the shells which we used were such as could be obtained from shipments that were received that either had no piercings whatever or were imperfect in other respects. The marks to which you refer show the result of an imperfect piercing operation in the tool for piercing the bayonet slot in the shells. The tool in this particular case did not pierce the metal through as it should have done.

Q. 16. I show you three exhibits marked "Ecaubert Shell produced by Weber" and "Ecaubert Shell and Cap produced by Weber" and also "Weber Sleeve made by Ecaubert." Please state what you know about the history of these exhibits?

A. These are all shells which were produced by the tool which Mr. Ecaubert made for us at the time mentioned or in other words the tool was completed in January, 1898.

Q. 17. And when were these various shells made with this tool?

A. They were made at the time the tool was completed.

Q. 18. Where were the several exhibits Ecaubert Bill, Weber Check, Weber Sleeve made by Ecaubert, Ecaubert Shell produced by Weber, Ecaubert Shell and Cap produced by Weber, Weber First Hand-Made Shell, and Weber Second Hand-made Shell and January, 1898, Weber Snap-Shell Key Socket, and January, 1898, Weber Snap-Shell Keyless Socket from the respective times when they were made and the several exhibits tested, as testified by you up to the time when you produced them to your attorney for
151 evidence in connection with the litigation over said patent No. 743,206?

A. They were filed away in our safe.

Q. 19. Can you produce the tool made by Ecaubert to which you have referred?

A. I cannot. We have tried to locate this but without success. It has no doubt been scrapped as its usefulness was superseded by more modern tools.

Q. 20. I show you Complainant's Exhibit, Wilhelm Drawing, and ask whether or not you recognize the construction shown herein?

A. I recognize this as showing the tool which Mr. Ecaubert made for us for producing the various operations on the shells, as I have already testified.

Q. 21. What was your purpose in trying to devise or obtain the snap-shell construction?

A. We endeavored to find some means which would do away with the serious trouble and annoyance which was experienced with the screw type socket fastenings and others which were on the market at that time, our idea being that it was very desirable to make up some sort of a construction that would make a positive lock which would not be subject to any of the difficulties which were common with the sockets on the market at that time. In other words, it must be something entirely different, something which operated in a different manner, so that in no way the ordinary strains to which a socket was subjected would permit the two parts to become disengaged.

Q. 22. Was there an open market for socket casings alone as a complete product?

A. There was not.

52 Q. 23. For what purpose then did you wish a socket-casing?

A. It was our intention to go into the manufacture of lamp-sockets and we realized that it was very important indeed to overcome such difficulties as referred to in my previous answer, and when this was accomplished to direct our efforts toward a satisfactory interior to be used in connection with this shell-construction.

Q. 24. After you had demonstrated the snap-shell construction to your satisfaction as you have testified in January, 1898, what did you thereafter do with a view to putting a lamp-socket on the market?

A. We then started to work on a socket interior which could be used in connection with the snap-shell and cap construction referred to. We found this to be a very difficult problem to solve, as at that time there were I believe about three hundred and fifty patents which had been issued in this line, and as we were very anxious to avoid infringement of any existing patents or any of the various claims of these patents, it resulted in our making up many models which we submitted to our attorney from time to time for his advice when it became necessary to make many changes, calling for new models all of which had to be made up by us in such time as we could at our disposal outside of our regular work in connection with our porcelain business, etc. We finally succeeded in making up a model

which our attorney was willing to approve as being, in his opinion, clear of infringement of all patents of which we had knowledge. And this construction was finally placed upon the market, and is today in practically the same form as when it was first put
153 out. To illustrate the thoroughness with which we went into this matter, I will state that the only suit which was ever filed against us on this construction was under the Perkins patent owned by the Bryant Electric Company.

Q. 25. How long did these investigations and experiments with the interior construction continue before you were satisfied that you had an interior construction which was practically free from infringement of other patents?

A. It continued up to the time that we filed our application for the snap-shell construction covered by patent No. 743,206. Just as soon as we had completed this interior, we immediately filed application for a patent covering the snap-shell feature covered by the patent just referred to.

Q. 26. Did you make application for the interior construction or switch-mechanism which you finally devised about that time?

A. We did, which application was filed February 13, 1903, and issued as patent No. 743,207.

Q. 27. On the lamp-socket which you placed upon the market, there is a slot in the edge of the cap, which engages an outwardly displaced part of the sleeve and which is referred to in the later Weber patent No. 946,812 as having a function of guiding the parts into alignment in assembling and preventing relative rotation of the cap and sleeve. Please state the circumstances connected with the adoption of this device on your socket?

A. We found that it was desirable to have a means for properly registering or aligning the catch projections with the recesses which they were to engage. This was rather important especially
154 so when the sockets were used in connections with husks. Some of them were very close and this means was a great assistance in properly positioning the shell so that it could be snapped into the cap. Then again, there were other places in which the socket was more or less placed in an inaccessible position and would avoid any difficulty experienced under such conditions.

Q. 28. Up to the time your father made his application for patent No. 743,206 in suit, had you any intention of supplementing the snap catches themselves by other means for preventing relative rotation between the sleeve and cap?

A. None whatever.

Q. 29. Was it your intention to permit or provide for such relative rotation or were you satisfied that the snap catches themselves were sufficient to prevent it?

A. We were absolutely satisfied that the snap catches themselves were sufficient to prevent rotative movement and had no intention of providing any other means to prevent such movement.

Q. 30. Did or did you not intend that the snap-catches themselves should prevent such rotative movement?

A. We intended that the snap-catches themselves should prevent such rotative movement.

Q. 31. What do you say as to the relative accuracy in construction and nicety of fit with relation to the snap-catches and the recesses which they engage and the fit of the cap to the sleeve with respect to the construction you have employed the additional means to prevent relative rotation and the construction as you would make it and as you would intend to make it without such additional means to prevent rotation?

A. The construction as we have made it with the additional means for preventing relative rotation gives us a little more leeway and the piercings therefore do not have to be made quite as accurately as would be the case if the construction were made without this additional means for preventing relative rotation of the shell and cap. It also allows us a little more leeway as to the diameters of the shell and cap.

Q. 32. From the investigations which you have made of the patents on lamp-sockets, can you state how many United States patents have been granted for lamp-sockets prior to December 10, 1902, and to how many different inventors these patents had been granted?

A. There were about 369 patents on lamp-sockets granted to about 248 inventors prior to the date referred to.

Q. 33. Please state what manufacturers of lamp-sockets are licensed under patent No. 743,206 in suit?

A. The General Electric Company, Bryant Electric Company, Perkins Electric Switch Manufacturing Company, Pass & Seymour, Inc., H. T. Paiste Company, Arrow Electric Company, Harvey Hubbell Co., Inc.

Q. 34. About how many lamp-sockets are made and sold by said licensees each year under said patent?

A. Between nine and ten million.

Q. 35. What is the approximate output of the Weber Electric Company of sockets made under the patent in suit?

A. About two million sockets a year.

Q. 36. What is your estimate of the number of snap-shell sockets manufactured each year by concerns not licensed under your patent No. 743,206 in suit?

A. I should say it was about five million sockets a year.

Q. 37. Has this patent No. 743,206 in suit recently been sustained as valid and infringed with reference to the first four claims thereof in United States District Court for the Southern District of New York in an action titled Weber Electric Company vs. National Gas & Electric Fixture Company?

A. It has.

Recess.

Session Resumed After Recess.

Counsel for Complainant offers in evidence a certified copy of the opinion of Judge Ray, filed March 25, 1913, in the United States District Court for the Southern District of New York in Weber Electric Company vs. National Gas & Electric Fixture Company.

It is stipulated that a printed copy of said opinion may be substituted for and used with the same force and effect as the certified copy subject to correction upon comparison with the original opinion. A printed copy is so substituted and marked "Complainant's Exhibit, opinion by Judge Ray."

Q. 38. Judge Ray in his opinion in the National Gas case discusses three forms of Defendant's sockets, entitled therein
157 "Complainant's Exhibit, Defendant's Key Socket," "Complainant's Exhibit, Defendant's Keyless Socket," and "Defendant's Exhibit, Defendant's Keyless Socket." Will you please produce specimens of these three sockets similarly marked?

Q. I produce the sockets requested so marked.

Counsel for Complainant offers in evidence the three sockets just produced by the witness as Complainant's Exhibits, of the titles which they respectively bear.

Q. 39. Is your father accessible as a witness at this time?

A. He is not. He has been in rather poor health for the past few years and has not taken an active part in the business for this length of time. He sought relief in many places but without success and is considering at the present time taking a trip abroad in hopes of regaining his health.

Q. 40. I show you Defendant's Exhibit, Oetting patent and ask you whether lamp-sockets having a shell fastening substantially like that shown in this patent have ever been put on the market?

A. To the best of my knowledge there have never been any sockets put on the market made in accordance with this patent. I feel quite certain that if they had I would have been aware of the fact, as I am in constant touch with such matters and believe it would have been brought to my attention.

Q. 41. What experience have you had in the manufacture
158 of sheet-metal articles of the nature of lamp-sockets?

A. I have been connected with this line of work since about the year 1889 and during this time I have personally made dies for producing sheet-metal work and have for a number of years had many men under me who were expert workers in this line. I have also had occasion to frequently consult with expert mechanics and sheet-metal workers who have practically spent all of their lives in connection with sheet-metal work.

Q. 42. Defendant's counsel has offered in evidence an early type of Yost socket from which the exterior studs have been removed. Will you please produce a complete specimen of the early type of Yost socket?

A. I will and do. This socket is tagged "Complainant's Exhibit, Early Yost Socket."

Q. 43. Is the Yost Manufacturing Company the present maker of Yost sockets, the successor to the Yost Miller Company, which appears as the assignee of the United States Kenney patents which are in evidence herein?

A. To the best of my knowledge, they are.

Q. 44. Can you produce later types of Yost sockets as more recently made by the Yost Manufacturing Company?

A. I can and do. They are marked as follows: "Complainant's Exhibit, Yost Socket," "Complainant's Exhibit, Yost American Socket, No. 1," and "Complainant's Exhibit, Yost Socket No. 5."

Q. 45. Can you produce a label or wrapper such as is used by the Yost Manufacturing Company for the individual sockets like the exhibit, Yost socket, No. 5?

159 A. I produce herewith the wrapper which is used by the Yost Manufacturing Company for this purpose.

Counsel for Complainant offers in evidence the wrapper just produced by the witness and the same is marked "Complainant's Exhibit, Yost Wrapper."

The exhibit is objected to as incompetent and immaterial.

Counsel for Complainant offers in evidence as Complainant's exhibits the several sockets produced by the witness and marked respectively "Early Yost Socket," "Yost Socket," "Yost Socket No. 5" and "Yost American Socket No. 1."

The exhibits just offered in evidence by Counsel for Complainant are objected to by Counsel for Defendant as incompetent and immaterial and irrelevant.

Q. 46. Has suit been brought under your patent No. 743,266 against any of the Yost sockets of the types which you have here produced, if so, which ones?

Question objected to as incompetent and immaterial and irrelevant to any issue in this case.

A. Suit has been brought against a sellet of the Yost sockets on the type of sockets shown in this case and tagged "Complainant's Exhibit, Yost Socket" and "Complainant's Exhibit, Yost

160 American Socket, No. 1."

Q. 47. Had you any knowledge of Yost Sockets like the exhibit Yost Socket No. 5, being on the market at the time that suit was brought against the Yost sockets?

Same objection.

A. We had no knowledge of this type of socket being on the market at that time.

Q. 48. H. C. Wirt, who I believe is President of the Defendant Company, has testified in effect that there is a saving of approximately one cent a socket, due to the use of the snap-shell construction instead of the screw-and-slot construction of the Lange type of socket. From your experience, what have you to say as to the correctness and accuracy of Mr. Wirt's statement in this respect?

A. Our experience does not bear this out. The cost of the snap-shell and cap is about the same, if not a little higher than the side screw type of shell and cap. In fact, there are on the market at the present time certain snap-shell constructions made by li-

censees under our patent No. 743,206, which are I believe, more costly to make than the old type of Lange fastening.

Q. 49. You have referred to the Harvey Hubbell, Inc. Is that a company with which is connected Harvey Hubbell, the patentee of Hubbell patent No. 679,316 in evidence herein?

A. Mr. Harvey Hubbell is President of the company of the name of Harvey Hubbell, Inc.

Q. 50. One of the exhibits introduced by Defendant herein with reference to patent No. 916,812, entitled "Defendant's Exhibit, Socket with Lining Holder like Procter patent No. 690,152, May 16, 1905, bears the Hubbell Company trademark, and apparently Defendant's Counsel used a Hubbell shell for this experiment. I notice that the cap of this exhibit has the fibre washer held in by the cut-metal edges of slitted and indented portions of the cap as set forth in claim 8 of your patent No. 916,812. Is this feature employed in the caps of Hubbell shells by license from your company under said patent No. 916,812?

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A. It is.

Redirect examination.

By Mr. Curtis:

R. D. Q. 51. In your answer to X Q. 97 you have stated that in the January, 1898, Weber Snap-Shell Key Socket the introverted tongue supports the interior porcelain part by engagement with the grooved porcelain body, the porcelain resting upon the tongues. What was the fact and the situation as to this at the time of the application for the Weber patent No. 743,206 in suit?

A. At the time the application was made for patent No. 743,206, it was no longer necessary to support the porcelain in that way. As the lower edge of the porcelain interior engaged the lining of the shell at the shoulder between the large and small diameter ends, the body was then supported in this way; the introverted tongues being used simply for the purpose of preventing rotation.

R. D. Q. 52. At the time said application was made what was the strain which it was most important for the introverted tongues to resist by their engagement with the grooves in the porcelain?

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A. It was the strain against relative rotary movement of the socket interior within the shell.

R. D. Q. 53. Your attention has been called to your Universal type of socket. Does this embody the invention of claim 4 of patent No. 743,206?

A. It does.

R. D. Q. 54. Have sockets of this general character in that the cap and sleeve can be assembled and interlocked against rotation in numerous relative rotary positions, come into somewhat extensive use in recent years?

A. Sockets of this general character have come into extensive use in recent years.

R. D. Q. 55. Was a socket of the general character stated in R. D. Q. 106 known in the trade or upon the market prior to the introduction of the Weber snap-shell socket?

A. There was nothing of this sort known in the trade prior to that time.

R. D. Q. 56. Is there any socket on the market today having this feature of adaption for assembling and interlocking in numerous rotary positions which does not have snap-catches and which is not made under license from your company under the patent No. 743,206?

A. None to my knowledge.

R. D. Q. 57. Are sockets of the general character referred to in the last preceding question, being made and marketed by various manufacturers under such license?

A. They are.

R. D. Q. 57½. You have referred in answer to X Q. 98 to two forms of socket which were on the market about 1898. Do I correctly understand that in both types of socket there referred to, screw mechanism was depended upon for holding the cap
163 and sleeve together?

A. Both types of sockets depended upon screw connections for holding the cap and shell together.

R. D. Q. 58. Were either of the two types of sockets referred to in your answer to X Q. 98 extensively used or were they to meet special conditions?

A. They were regular standard sockets which were on the market at that time and were used quite extensively. The one type referred to as electrolier socket was a socket of small diameter and was not quite as extensively used as the other socket.

Deposition closed.

The witness, JOHN WEBER, being recalled, testified as follows:

Examined by Mr. Curtis:

R. D. Q. 58½. In your answers to X Q. 98, R. D. Q. 111, and R. X Q. 113, you have referred to certain sockets as being on the market. Will you please explain more fully what you mean by "on the market" and the extent of the sales of these other types of sockets in 1898 and at the date of the application for patent No. 743,206, as compared with the Lange-Type of socket?

A. What I mean by the term "on the market" was that for instance if orders were received by the General Electric Company for sockets of this sort, they would agree to supply them. It was a line of material that had been superceded by the Lange-
164 Type of fastening which was the predominating type along in the year 1898 and up to the time the snap-shell type of sockets were placed upon the market. Such orders for these old types of sockets were very few and far between. And if the General Electric Company could substitute the Lange-type of fastening, they would much prefer to do this.

R. D. Q. 59. In stating in your answer to R. D. Q. 58 that certain sockets were quite extensively used, to what time were you referring?

A. I was referring to the time when these sockets were made in the early days of lamp-socket construction when they were practically the predominating type of socket at that time.

R. D. Q. 59½. Then do I correctly understand that at the time of the invention of the snap-shell by your father in the latter part of 1897, these other types referred to had been practically superseded by the Lange type or side-screw type, although the other sockets were still on the market in that they could be obtained if desired?

A. Your understanding is correct. The Lange type had practically superseded the types of sockets referred to.

Cross-examination of the witness JOHN WEBER.

By Mr. Wolhaupter:

X Q. 60. I understand Mr. Weber that whatever knowledge you have regarding the lamp-socket casings of the type disclosed in your father's patent No. 743,206, was derived by you from your father, is that correct?

A. That is correct.

165 X Q. 61. You have testified that certain features of the Weber lamp-socket were conceived in the year 1897. In what way do you fix that date, and in what way did you first receive information regarding the improvements under discussion?

A. It was late in the year 1897 when my father stated to me that he had thought of a new method for locking the shell and cap members of an incandescent lamp-socket and said that he would make up a model showing what his idea was. This was done promptly and in view of the fact that the only means he had for producing these piercings, etc., was by hand, we decided that it would be best to have a tool made so that they could be made more accurately and quicker. We decided to have this tool made by a friend of his, Mr. F. Eeaubert, who ran a machine shop in New York City. The tool was made and completed early in January, 1898.

X Q. 62. At the time of these occurrences, where was your father employed?

A. My father had charge of the manufacture of the line of incandescent lamp-sockets, and wiring supplies in general which were marketed by the General Electric Company.

X Q. 63. Can you state at this time what description, if any, your father gave to you of these improvements in a cap and shell fastening when he first disclosed the same to you?

A. He simply stated that he had a new method for locking these two members together without the use of screws. The model was then promptly made up and disclosed the idea.

X Q. 64. When did you first see that model?

A. As I recall it, it was the day following the date when he first told me that he had an idea of making this style of construction.

X Q. 65. Please describe what provision was made on that model for fastening together the cap and shell?

A. There were two holes in the cap and two projections on the shell which would engage in these two openings in the cap when the parts were telescopically applied to each other.

X Q. 66. How do you fix the date, that is, the year when you first saw this first model embodying the said cap and shell fastening?

A. I fix this date by my knowledge of the situation at that time and also based upon the records of Mr. F. Ecaubert who constructed the tool for performing these various operations as previously referred to. Also by the dates shown on Mr. Ecaubert's bill for these tools and our check in payment of same.

X Q. 67. Was this first model a complete one, that is to say, did it include both a cap and sleeve?

A. It did.

X Q. 68. Have you been continuously associated with your father in this line of endeavor since the making of these first models of the cap and shell fastening? If so, state briefly of what your relation has been to him in that connection.

A. I have been continuously associated with my father in this line of endeavor since the making of the models of the shell and cap referred to. During the time he was with the General Electric Company, I was his first assistant and had charge of the turning out of their wiring devices. When I left the General Electric Company, I went to work for my father in his own plant which was devoted to the manufacture of special porcelain pieces. This was in the year 1900. My brother had already been running this plant for my father and we continued operations under the name of Bellevue Porcelain Works, until the year 1905, when we incorporated under the name of Weber Electric Company.

X Q. 69. Am I correct in understanding from your testimony that late in the year of 1904, the first Weber sockets were marketed containing the cap and shell fastening improvement disclosed in your father's patent No. 743,205?

A. You are correct in your understanding.

X Q. 70. And also that this was due partly to the fact that it was not until during the year 1904 that you had devised and perfected an interior mechanism to go with your cap and shell construction. Is that correct?

A. The interior mechanism which we devised to be used in connection with our new style of snap-shell construction was completed as I recall it late in the year 1902, and if I remember correctly the patent covering same, which is No. 743,207, was issued November 3, 1903, and it was late in the year 1904 before we found ourselves in a position to manufacture and place these sockets on the market.

X Q. 71. In your answer to Q. 25, you explain that just as soon as you had completed the interior construction for your new type cap and shell, you immediately filed application for patent. Do I under-

stand you to mean by that testimony that it was the application f
patent on the interior construction, which you filed immediately aft
completing "this interior"?

168 A. The application referred to was the one for the sna
shell feature, which was later covered by our patent N
743,206. Said application was made December 10, 1902. The appl
cation for the interior mechanism was filed February 13, 1903, an
was issued November 3, 1903, as patent No. 743,207.

X Q. 72. Then according to your recollection, the "interior co
struction" was completed in the early part of December, 1902, or i
the preceding month?

A. That is correct.

X Q. 73. Who devised this interior construction?

A. It was devised jointly by my father, my brother and myself.

X Q. 74. What feature of this interior construction did you co
tribute?

A. We all worked together on the matter and suggestions would b
made by one or the other in an endeavor to meet conditions as the
came up, the result being that we all had a hand in devising this in
terior. It is a little difficult at this time to recall the numerous sug
gestions which each one made individually, but one thing that
recall was that I was always anxious to do away with the use of screw
for fastening the various parts.

X Q. 75. In connection with the idea of dispensing with fastenin
screws, what suggestion, if any, do you offer which would apply
the cap and shell parts of the socket-casing involved in this suit?

A. None whatever.

X Q. 76. You have testified that the delay in making an interi
construction for your new type of socket-casing with the snap fasten
ing was partly due to your desire to avoid infringement of the lar
number of patents relating to that subject which you say yo

169 were considering from time to time with your attorney. I
I understand from this testimony that you were in charge o
the investigation of these patents and more or less familiar wit
them?

A. As far as the investigation of the patents was concerned, m
brother, August Weber, Jr., had more to do with this than I did; bu
we would all get together and talk over the various matters in connec
tion with the same as they would come up from time to time, and w
would all bend our efforts toward developing an interior which w
believed would be clear of infringement of any of the claims of th
numerous patents which had already been granted. This as I hav
previously stated in my testimony was found to be a very difficul
problem indeed and one which became very discouraging at times
but after many consultations with our attorney in connection wit
going over the various ideas we had and changes which he found
necessary to make in order to steer clear of any infringement, w
finally succeeded in making an interior which our attorney was wil
ing to state he thought was clear of infringement of any existin
patents; and the experience which we had after this socket was place
upon the market we believed justified his position in the matter, a

there was but one suit filed against us which was under the Perkins patent; and our construction today is practically the same as it was when first placed upon the market.

X Q. 77. I assume then that you familiarized yourself with the different methods which had been employed, and disclosed in patents, to hold the interior parts from relative rotation. Is that true?

170 A. I was familiar with the different types of sockets that had been made from time to time by the different manufacturers.

X Q. 78. It was a common thing, was it not, prior to the inventions of the Weber patents 743,205 and 743,207, to hold a porcelain base within the metal casing of a lamp-socket by means of screws carried by one member of the casing and engaging into recesses in the edge of the porcelain base?

A. The description you have just given covering this method of porcelain interior is, as I understand it, practically the same as the method employed in the so-called Lange-type fastening which was the dominating type of socket used at about the time of the invention of the Weber socket. This construction had two side screws placed diametrically opposite each other which passed through a hole in the cap into a threaded yoke. The porcelain interior had two recesses located opposite each other in which these two screws would engage, the shell of the socket was then slipped up between the yoke and the cap shell and held in position by the tightening of these two screws. This construction is shown in Complainant's Exhibit, Lange-type socket.

X Q. 79. This same construction, that is, the feature of screws carried by the cap and the key entering recesses in the sides of the porcelain base which was common when your father entered the field was also embodied, was it not, in sockets made by Perkins under the Perkins patent, and others?

A. Practically all of the sockets on the market at that time had a similar construction.

X Q. 80. You have described one known method of pre-

171 venting the interior parts of a socket from turning, that is the use of screws carried with a cap and which screws engage recesses in the porcelain base. Do you know of any patent dated prior to January, 1898, showing any other method for accomplishing this same result?

A. I know of other methods which have been employed that do not exactly line up with the description outlined in the Lange patent, but I cannot state definitely without having had an opportunity of refreshing my mind by looking over various patents whether or not these constructions were covered by a patent issued prior to 1898. One construction I have in mind is where the interior of the socket was held in place by the use of two screws which came through the top of the cap and screwed into two brass nuts which were mounted in the porcelain piece used in connection with the interior mechanism.

X Q. 81. Referring to the patent to Knowles, No. 516,819, dated March 20, 1894, do you not find this patent to illustrate a lamp-

socket in which the metal shell is indented to produce internal pr
jections that engage the interior insulating base and thereby prev
turning of the latter, after it has once been inserted in the socket?

A. I find upon looking over the Knowles patent referred to th
this shows a different type of socket than any of those previous
referred to, the shell itself being threaded; and in the constructio
of the socket shown, I do not believe that there is any strain brough
to bear in regard to rotation of the insulating base within the she
The indentations would seem to be used simply for the pu
172 pose of registering the insulating base which is rectangul
in form. The socket shell shown in this patent has indent
tions in which the rectangular block registers; and if a rotati
strain were brought to bear on this rectangular piece, I am not pr
pared to say whether the projections would successively prev
rotation. They are simply indents in the shell and present a roun
smooth surface, over which the rectangular block might ride, if th
shell was made of the material used in the present day socket, as the
might spring apart.

X Q. 82. However, with respect to the Lange type of socket, th
screws entering the recesses in the porcelain effectually prevent rota
tion in the latter, when rotative strain is applied, do they not?

A. They do.

X Q. 83. And that function as performed by the screws and th
recesses in the porcelain of the Lange-type of socket is for the sam
purpose, as I understand it, as the inward projections on the shell o
the Weber socket. Is that a correct statement?

A. That is a correct statement.

X Q. 84. Is the following comparison correct: In the Lange-typ
of socket the screws not only constitute a part of the cap and she
fastening, but also perform the additional function of combinin
with the recesses in the porcelain base to prevent turning of the latte
under rotative strains. And, in the Weber type of socket accordin
to Weber patent No. 743,206, the cap fastening consists of outwar
projections on the shell having engagement with openings or hol
in the cap, and the fastening for the interior porcelain base consis
of separate indentations forming interior projections on th
173 shell which engage recesses in the porcelain base to preve
rotation.

A. It is.

X Q. 85. With such a construction as embodied in the Webe
type of socket referred to in the last question, suppose the indenta
tions forming the interior projections for engagement with the porc
lain base were omitted, would that omission in any way affect o
interfere with the locking together of the cap and shell by bringin
the outward projections on the shell into locking engagement wit
the openings or holes in the cap?

A. It would not.

X Q. 86. And, vice versa, would the fastening together of the ca
and shell of the Weber socket by some other means than those show
in patent No. 743,206 interfere with locking the porcelain bas

against rotation by means of indentations in the shell forming projections which engage recesses in the porcelain base?

A. I do not feel that I can answer the question satisfactorily without knowing exactly what the means for locking the cap and shell together would be. It is all together possible that it might or might not interfere.

X Q. 87. Take for instance the Lange-type of socket and simply have the screws long enough to engage in the threaded openings in the ends of the yoke but having no projection beyond the inner faces of the yoke. Using such a cap and shell fastening as an example, how would you then answer X Q. 86?

Counsel for complainant objects to the question as calling for an opinion, and as based upon hypothetical structure, and for
174 the reason that the witness is not called upon to answer in the absence of a physical embodiment of the structure called for by the question.

Counsel for defendant submits that this witness has shown himself eminently well qualified to testify from an expert knowledge not of only the socket manufacture industry, but also of the patent situation affecting the same. He has submitted his own qualification in these particulars and it is, therefore, insisted that the question is not only a proper one, but must also be entirely intelligible to the witness in view of his knowledge of the Lange-type of cap and shell fastening, and of the Weber expedient for preventing rotation of the porcelain base under rotative strains. And an answer to the question is requested.

A. I still feel that even in view of the fact that a definite description has been given of a construction that might have been employed to lock the shell and cap together that I cannot give a satisfactory answer to the question without having the opportunity of examining a structure made in accordance with the form suggested. It has been my experience in connection with work in the socket line that sometimes the slightest of change which it is hard to conceive would make any difference sometimes works out contrary to all expecta-
175 tions, and the only safe way would be to try it out on a definite basis.

X Q. 88. Referring to Complainant's Exhibit, "Weber First Hand-Made Shell," have you any personal knowledge as to whether the inwardly bent projections or tongues were formed at the time of making this model, or subsequently thereto?

A. According to my recollection, they were made at the same time that the two outward projections of the shell were made.

X Q. 89. Did you see them made?

A. I did not.

X Q. 90. Whenever it was that you first saw "Weber First Hand-Made Shell," you understood at that time, did you not, that these inwardly bent projections or tongues were to engage in the recesses in the porcelain base which had theretofore been engaged by screws as in the Lange type of socket?

A. I understood that they were for the purpose of engaging the recesses in the porcelain base similar to those used in the Lange type of socket, although these recesses would be of a slightly different form.

X Q. 91. When did you first see any kind of an interior applied to the new Weber type of socket constructed in accordance with the Weber patent in suit?

A. Directly after the receipt of the first tool-made shells from Mr. Ecaubert during the month of January, 1898.

X Q. 92. What make of interior was it that you saw so applied?

A. It was the so-called Tournier type of single base porcelain socket.

X Q. 93. After the production of "Weber First Hand-Made Shell," what, if anything, remained to be done in a mechanical way to render the same commercial?

176 A. It was necessary to make up a set of tools for producing the various projections and indentations shown.

X Q. 94. How long would it ordinarily take to make up such a set of tools?

A. That would depend entirely upon the time the order was placed for same, and how busy the shell manufacturers might be at the time the order was given them.

X Q. 95. Would you say that one year from the time of giving such an order would be a reasonable length of time to allow for such tools to be made?

A. I should say that a year would be ample time for the shell manufacturers to make up a set of tools for producing these shells and caps commercially.

X Q. 96. What if anything was done during the year of 1898 by your father or by you, or your brother in the direction of preparing the new cap and shell fastening for the market?

A. Just as soon as we were satisfied that we had a successful snap-shell construction we spent all our efforts toward making an interior which would be used in connection with same, and one which would not infringe the claims of any of the patents which were issued up to that time. This as I previously stated, proved to be a very difficult problem, and we realized that without a satisfactory interior, our snap-shell construction would be of no value to us.

X Q. 97. How long after the making of the first model were you satisfied that you had a successful snap-shell construction so that you could give all of your efforts to developing an interior?

A. When we made up the sample which is tagged
177 "Weber Second Hand-Made Shell and Cap," we felt satisfied that we had a construction which would work out satisfactorily, and a little later on along about the middle of January, 1898, when we tested samples which were made by the Ecaubert tool, we were satisfied that our first conclusion was correct.

X Q. 98. That is to say you claim on behalf of your father and for yourself that as early as the year 1898 you had satisfied yourself as to the practicability of this new snap-shell fastening?

A. That is correct.

X Q. 99. Are you familiar with the Yost Socket as originally put out by the old Yost-Miller Company, and having a locking engagement between the cap and shell which did not involve the objectionable screws?

A. I am.

X Q. 100. When did you first know of this type of socket being actually on the market?

A. This matter is rather indefinite in my mind and I don't believe that I can state exactly in what year I first saw this socket.

X Q. 101. Could you say it was before or after the issuance of either of the Weber patents 743,206 or 743,207?

A. To the best of my recollection at the present time, it was after the issuance of the two patents just referred to. I cannot state positively when I first saw the Yost socket just referred to.

X Q. 102. Are you able to assign a reason why your father, you or your brother, deferred making application for patent on the device covered by the patent in suit until December 10, 1902?

178 A. Our reason for not filing an application for this patent was due to the fact that we were not in a position to place lamp-sockets on the market at that time, as we did not have an interior which could be used in connection with same; and there was no market for simply the shell and cap members of a socket. Further than this, we had decided to go into the socket business at as early a date as possible, and we fully realized that in order to be successful, we would have to place something on the market which was new and which had features that were entirely different from the sockets offered to the public at that time; and we also appreciated the fact that unless we could produce something that would steer clear of all infringement of patents we would at the start get into trouble and expense, due to litigation.

X Q. 103. During the period of January, 1898, to December, 1902, there was nothing to have prevented you or your associates in a financial way from applying for the patent in suit, was there?

A. There was nothing in a financial way to prevent this.

X Q. 104. And the real reason you assign for the delay in making this application for patent is that you were at work on other inventions, particularly those embodied in the "interior construction." Is that correct?

A. The real reason which we assign for the delay in making application for patent was as previously stated that it was necessary to develop a satisfactory interior which could be used with the snap-shell construction.

179 X 105. During the same period was your father, or you, or your brother, developing any other invention excepting the interior construction for this socket?

A. I do not recall any at the present time.

X Q. 106. Would you say that you did or that you did not, file any application for patents on any other inventions during the period between January, 1898, and December, 1902?

A. To the best of my recollection, there were no applications filed by us during the period just mentioned.

X Q. 107. Do I correctly understand that your testimony is to the effect that the Weber sockets as actually put on the market by you and your associates included the additional feature of outward projections on the shell, engaging slots in the cap to compel the two parts to snap together by a straight telescoping movement, said projections and slots also preventing relative rotation of the shell and cap?

A. The Weber sockets as actually put on the market by us were made with the additional guide feature on the shell, which was used to facilitate the proper alinement of the catch projections on the shell with the recesses in the cap in which they would automatically lock when the two members were pressed together telescopically.

X Q. 108. Does my last question correctly describe this "guide feature" and its effect?

A. I believe it does.

Cross-examination closed.

Deposition closed.

JOHN WEBER.

180 Counsel for Complainant offers in evidence the stipulation herein dated the 11th day of August, 1913, together with the depositions therein referred to of Frederick Ecaubert and Charles Wilhelm, and the same are marked "Complainant's Exhibits, Ecaubert and Wilhelm Depositions," and he also offers in evidence each of the Exhibits referred to in said depositions which Exhibits are marked herein with the title of this cause and with the respective titles under which they were originally introduced in said depositions.

Counsel for Complainant offers in evidence the stipulation herein dated January 26, 1914, together with the depositions of August Weber, Jr., Chauncey L. Hight, James T. Robb and Timothy J. Sullivan, therein referred to, and the same are marked "Complainant's Exhibits, Depositions of August Weber, Jr., Chauncey L. Hight, James T. Robb, and Timothy J. Sullivan"; and he also offers in evidence each of the Exhibits referred to in said depositions, the same being marked with the title of this cause, and with the respective titles under which they were originally introduced in evidence.

Adjourned to the office of Adams & Chambers, Room No. 127 Post Office Building, New York City, at ten o'clock a. m., January 31, 1914, for the examination of the witness Henry Price Ball.

181 United States District Court, District of New Jersey.

In Equity.

WEBER ELECTRIC COMPANY

vs.

E. H. FREEMAN ELECTRIC CO.

On Patent No. 743,206.

STATE OF NEW YORK,
County of Rensselaer, ss:

I, Rose A. Leduc, a Notary Public, within and for the County of Rensselaer and State of New York, do hereby certify that the foregoing depositions of Albert F. Ganz and John Weber, were taken on behalf of Weber Electric Company by consent of, or in the presence of, counsel for E. H. Freeman Electric Co., as noted in the record, before me, on the respective dates at the place noted in the record; that the respective parties were represented by counsel as appears in the record; that the testimony of each of said witnesses was written out by me; that the deposition was read by each witness before the witness signed the same; that the stipulations entered in the record were duly made before me; and that I am not connected by blood or marriage with either of said parties or interested directly or indirectly in the matter in controversy.

In testimony whereof, I have hereunto set my hand and affixed my seal of office at Troy, in the County of Rensselaer, and State of New York, this 26th day of March, 1914.

ROSE A. LEDUC,
Notary Public.

[NOTARY'S SEAL.]

182 United States District Court, Southern District of New York.

In Equity.

WEBER ELECTRIC COMPANY

vs.

NATIONAL GAS & ELECTRIC FIXTURE COMPANY.

On Patent No. 743,206.

Hearing continued by consent of counsel before Frederic M. Adams, a Standing Examiner of this Court, under the 67th Rule

as amended, at his office, Room 127, Postoffice Building, New York City, at 11 a. m., July 16, 1912.

Present:

Frank C. Curtis, Esq., for complainant.
Francis C. Lowthorp, Esq., for defendant.

183 HENRY P. BALL, a witness called on behalf of the complainant, being duly sworn, testified as follows:

Direct examination.

By Mr. Curtis:

Q. 1. Give your name, age and place of occupation?

A. Henry Price Ball, 187 Wendell avenue, Pittsfield, Massachusetts, engineer of heating devices, heating device department General Electric Company.

Q. 2. For how long have you been connected with the electrical business?

A. Since 1888.

Q. 3. With what lines have you been connected?

A. With designing and manufacturing of small apparatus such as sockets, switches, cut-outs, circuit breakers, switch boards, etc.

Q. 4. And during the period stated, with what company or companies have you been connected?

A. My first experience after leaving college (the University of Pennsylvania, in 1888), was in wiring houses and factories and subsequently with the Philadelphia Edison Company as inspector of wiring, then with the Sprague Electric Company, building electric railways, the United Edison Manufacturing Company, the Edison General Electric Company, the Ward Leonard Electric Company, the Cutter Electric Company, the General Incandescent Arc Light Company, Stanley G. I. Company and the General Electric Company.

Q. 5. Do you know August Weber, of Schenectady, New York, the patentee of the patent in suit?

A. Yes, I have known Mr. August Weber for many years, having first met him at the time I entered the United Edison Manufacturing Company when they bought the Sprague Company out, and, at or about the same time they also bought out the

184 Bergmann Company, and Mr. August Weber was the manufacturing superintendent of the factories located at 17th street, Avenue B and 27th street, New York City.

Q. 6. In what way were you thereafter associated with Mr. August Weber?

A. When I first met him, Mr. August Weber my office was at 65 Fifth avenue, at the headquarters of the United Edison Manufacturing Company, the factory at 17th street and Avenue B became the manufacturing establishment for the small supplies for the company, and Mr. W. S. Andrews and myself, who were both inter-

ested in the design of the small apparatus, were transferred to the factory. From then on I came in daily touch with Mr. August Weber. Mr. Andrews and myself had an experimental department in the building in which Mr. Weber was superintendent. It was our function to design the apparatus which he afterwards would manufacture. Naturally we were thrown together continuously, and by daily interchange of ideas, I became very well acquainted with Mr. August Weber and his abilities.

Q. 7. Did Mr. August Weber ever show you his snap shell lamp socket and, if so, state the circumstances?

A. The snap socket of Mr. Weber was not designed by him until after I had left the General Electric Company (in 1893) and went with the Ward Leonard Electric Company. The factory at 17th street and Avenue B was transferred to Schenectady two or three years prior to this time and it was not until a couple of years later, after I left the General Electric Company, that I saw the snap socket Mr. Weber had devised. As I remember, it was
185 shown me by his son, August Weber, Jr.

Q. 8. What opinion did you form upon examining that Weber snap shell socket shown you by August Weber, Jr., at that time?

Mr. Lowthorp: I object to the question as irrelevant.

A. I had devoted considerable of my time to designing sockets with the General Electric Company and still had, after being transferred to Schenectady, a number of workmen who gave all of their time to experimental work. One or two of these men were working continually on sockets. The other men were working on other devices. When I saw Mr. Weber's socket I was surprised at the audacity of the design, for the reason that we had been working a number of years to perfect the socket put out by the General Electric Company; and, notwithstanding the fact that we knew of the weakness in the side screws, we were not able, through the ingenuity of myself and others, to overcome this objection. When I saw Mr. Weber's method of overcoming it I did not think it would be successful. There were too many uncertainties involved. The accuracy with which it had to be made, the resiliency of the metal, the irregularities that would creep in in the manufacture and the seriousness of the lock giving way, all seemed to work against the successful introduction of a snap catch. The troubles with the side screws and other means of holding the shell and cap together we knew of. It was a common sight in those days to see sockets
186 in fixtures and in other places with the shell entirely gone.

The trouble was in the vibration loosening the screws, allowing them to drop out and the socket to fall to pieces. As I saw it the snap catch would have to be very accurately made in order to be as safe as the side screws. At that time there were a number of manufacturers of sockets—eight or nine of them—each one showing considerable ingenuity in the development of the art, but, in all of their sockets, they resorted to the side screws. This confirmed my own opinion regarding the side screws, that it was better to

submit to known disadvantages and troubles than to court new ones. It is rather significant that today there are more manufacturers of sockets on the market than there were then by perhaps almost 50 per cent., and today every socket has a snap catch to hold it together and, in my judgment, side screws or any other construction of a screw form would not be successful in view of the experience that we have had in the last few years demonstrating the practicability of the snap socket.

Q. 9. I show you Complainant's Exhibit, the Lange type socket, and ask you whether that embodies the side screw form of fastening to which you referred in your last answer?

A. Yes, it does.

Q. 10. Was this form of side screw fastening the original or first form used by you, or was it the result of experiments with other forms of fastenings?

A. This form was a development. The early form was to hold the sleeve by a threaded ring on the screw shell. This threaded ring form was bad from every standpoint. It was expensive, being a moulded part, it was brittle, it worked loose, encouraged
187 short circuits by reason of the shell not being held tight in position, and would permit the entire shell to drop off the socket at which time it became a fire hazard, and being plainly in sight it brought considerable discredit to the electrical business in general, and the first step was to prevent the shell from dropping off, even if the ring itself became broken or dropped off. This led to the introduction of side screws. There were various forms of side screws used, but all of the same general characteristics; the screw clamped the shell between the cap and a nut or stirrup to hold it securely in position. This was a decided step in advance, for the reason that if, even if a ring dropped off, yet the danger of short circuit and people getting shocks from the socket was largely obviated. The next step was to put a fibre or paper lining in the shell, doing away with the threaded ring. This was done in several ways, fibre lining being made in one instance in a single piece and in another instance in separate pieces. This has the advantage of having no loose pieces, and it was impossible for the shell to become alive through tilting to one side and touching live metal parts in the interior mechanism of the socket. During all these improvements, running, to my knowledge, from 1888 up until 1893, at which time I gave up my direct association with the development of sockets and their manufacture, we had with us the side screws and all of their inherent defects and trouble. I would have naturally taken very kindly to any substitute for these screws, and, if I had thought
Weber's method of overcoming them was practical and could
188 have been worked out, I would have been extremely enthusiastic, and, even today, I am surprised at how roughly some of Weber's imitations are made, yet, how well they perform their functions. During the time that I was directly interested in the design of improved sockets we made many models, running over a period of a couple of years more, which models were primarily made to overcome the difficulties with these same screws. The best

we ever got out of it was to screw the cap and shell together. This form had been used prior to my time by Bergmann & Company in their chandelier sockets and was to a certain extent successful by reason of their employing very fine threads and on a very small socket. When this method was employed, however, on a standard socket with rolled threads, no matter how fine we made them, it was to a very large extent liable to work loose the same as the threaded ring did, and permit parts of the socket to drop apart. Another form was to make the threaded member which engaged with the threads on the cap separate from the shell screw, and screwing it against a shoulder on the shell similar to a pipe union used by the plumbers. This entailed additional expense for the reason that the additional piece had to be made of a complete cap the same as a shell, and it was hard to get at when used in fixtures in a house or any other inaccessible place. It was also bad for the reason that you never knew when it was screwed home. A little obstacle or imperfection in the thread would make it seem as if it was tight when it was not. One of the nice features of Weber's socket is the fact that you know when it is engaged; it goes with a snap
189 and has a nice feel. One of the points that we were obliged to contend with in the designing of sockets in those days was the irregularity in the thickness of the porcelain and a threaded member of some sort seemed to be necessary in order to compensate for the different thickness of porcelain. Any one familiar with the manufacture of porcelain goods knows something of the difficulties in making a large number of porcelain pieces of anywhere near uniform thickness, and, realizing this as one of the troublesome features to contend with, we would naturally have looked for a threaded device of some sort, and a snap member would naturally be the last thing that an inventor along these lines, knowing the conditions that he was up against, would think of. Mr. August Weber himself, during all the time that I speak of, was in daily touch with our work. During the latter part of my stay with the General Electric Company up to 1893, I was his personal assistant. My desk was alongside of his, we talked over the socket question not only from a manufacturing designing standpoint, but, from the question of cost, almost daily. The price on sockets was extremely low, it promised to go lower. There were many competitors in the field already and, naturally, we expected more. It was our effort, therefore, to make our designs cheaply. I very well remember going into the details of the thickness of the stock used; the methods of making the threaded nipple under the punch press instead of solid stock in the screw machine. Notwithstanding the fact that
all these things were uppermost in our minds, we never
190 made any samples or even sketches, in my recollection, of the snap socket. It was not until the year after, and, possibly the subsequent year, that the snap socket was invented. I might have added above that such men as Amandus Metzger, now deceased, and Tournier, who is still working on sockets and similar devices, were working with Mr. Weber and myself at the time, and

the best that we could do was resort to screws to hold the socket together.

Q. 11. What was the standing and reputation of Mr. Metzger and Mr. Tournier, to whom you have just referred as inventors in the electrical art?

A. Both of these men were skilled mechanicians, ingenious inventors, and were already employed in these lines at the time I went to the factory, 17th street and Avenue B. Mr. Metzger at that time was a foreman under Mr. Weber. Mr. Tournier was an experimental man on arc lamps and has been in the experimental line ever since and is now located in Schenectady with the General Electric Company. Mr. Metzger and myself took out patents jointly on sockets. In addition to these gentlemen, there were six or eight more men interested in developing apparatus and on whom we called from time to time for assistance, not only on account of mechanical skill, but, for their inventive suggestions; one man I have in mind being Thomas Donnelly; another, Gengenbach.

Q. 12. Had you yourself taken out a number of patents or inventions of your own?

A. I started taking out patents when I was fifteen or sixteen years old and have done so ever since, not only in the United
191 States, but in most of the foreign countries; I cannot say how many, but perhaps 150 all told.

Q. 13. Inventions or patents?

A. Patents.

Q. 14. How many in the United States?

A. I don't know, a large number in the United States.

Q. 15. What was the first influence upon the socket construction of the General Electric Company of the placing of the Weber snap shell socket upon the market?

A. The General Electric Company was one of the first to recognize the merits of the Weber socket to the extent that they put out a socket with a snap shell feature. Other manufacturers rapidly followed suit. The shell and the cap were provided with engaging means which interlocked and snapped together, similar to the Weber socket, and, at first, I infer (because I was not directly connected with the General Electric Company at the time or with the development of this socket), that they did not have confidence in the Weber catch to the extent of banking entirely on it, so that they still used the side screws and used the snap catch as what might be called a factor of safety, so that if the screws got loose the socket would not fall apart.

Q. 16. I show you Complainant's Exhibit 9386 socket, and ask you whether this embodies the construction referred to in your last answer?

A. Yes, sir.

Q. 17. What is your recollection as to the lapse of time after the Weber socket came upon the market, before the General Electric Company adopted these snap fastenings for their 9386 style of socket; that is, about what time?

192 A. It was shortly after, I cannot state exactly when.

Q. 18. Since the time that you first saw the Weber snap shell socket, have you kept in touch with the socket situation, in a general way, so that you can state what effect this Weber type of socket had upon the trade?

A. Yes. I have been continually employed in the designing of small devices, mostly household devices which are used in connection with sockets, and, for this reason, it has been necessary for me to keep in touch with the various sockets on the market, in order that the devices that I design can be universal in their application for practical use.

Q. 19. Please state what you have found to be the effect upon the socket situation following the introduction of the Weber snap shell with regard to the means for fastening the case members together?

A. The introduction of Weber's snap sockets has encouraged all of the other manufacturers to put on the market imitations built along the same lines and operating on the same principle, so that today all of the sockets incorporate this idea of a snap fastening.

Q. 20. In your opinion as being familiar with the trade and the art, would the screw-fastened socket today be a marketable article in competition with the snap fastened socket?

A. It would not, and, if any design was submitted to me for my criticism in which the socket was held together with screws, I would feel just about the same towards it as I felt towards Weber's socket when it was first shown to me. I might add that I feel that the snap socket has done more perhaps than anything

193 else to create confidence and give a sense of security and safety in handling electrical devices. Take for example the electrical flatiron, or toaster, or grill, or the numerous household devices that are put out promiscuously today, all of which, or most of which, are screwed into a socket. I doubt very much if these devices, yet would be as successful as they are if it were not for the snap sockets. The continual screwing in and out of attaching plugs tends to loosen a screw-held socket, while with Weber's invention it has no effect. The screw-held socket is almost invariably loose, either shaken apart or rapidly becoming so. Imagine a woman screwing an attaching plug into such a socket to use a flatiron. I doubt very much if we would sell 20 per cent. as many flatirons today if Weber had not made his improvement on the socket. In the early days sockets were largely used for lamps. A lamp was screwed in and stayed in for several hundred hours. Today sockets are used for all kinds of devices. Weber's invention, therefore, can be looked upon as a fundamental one and of a pioneer nature, one that tended towards the success of apparatus following.

Q. 21. You have referred to numerous household devices which are connected with lamp sockets, in place of the electric lamp; what is the fact as to the frequency with which connecting plugs for such devices are screwed into and out of the sockets as compared with the lamp bulbs?

A. There are numerous devices used in lamp sockets, perhaps the

most numerous among the heating devices would be the flatiron.

Flatirons could be divided into light pressing irons, used gen-
194 erally upstairs by the housewife herself, laundry irons, used once a week in the laundry or kitchen, and tailor's irons, used in industrial establishments. The iron most frequently inserted and removed from a lamp socket would be the first one mentioned. It would be liable to be placed in any convenient socket or receptacle in the house. It may be used once a day or oftener. Take for another example the coffee percolator. This would be used three times a day in the dining room, the plug being inserted and removed that often, perhaps oftener, sometimes in a socket on the fixture and sometimes in a receptacle in the floor. The tendency today is to multiply the number of household devices and to use sockets more and more for heating purposes. I could not enumerate all, but a few of the more important would be the following: Flatirons, toasters, curling irons, percolators, grills.

Q. 22. Assuming that similar catch fastenings had been used upon match boxes, paint cans and things of that sort, from your experience with lamp sockets, would you say that the use of such fastenings in those relations would be a safe criterion to guide the mechanic in making a fastening for a lamp socket?

Mr. Lowthorp: I object to that as irrelevant.

A. No, every one was familiar with snap fasteners of many forms but they always had a sense of insecurity associated with them.

Take for example a glove fastener, easy to put on easy to take
195 off. Weber's snap had distinctive points of merit in it in that it was necessary to take it apart with a deliberate intent and, up until that time it was so constructed that it was impossible of itself through any vibration to jar apart.

Q. 23. What would you say as to the conditions under which snap fastenings might or would be used applied to match safes and paint cans, as compared with the conditions under which lamp sockets are used with regard to strains, etc., upon the snap fasteners?

Mr. Lowthorp: I object to that on the ground of lack of qualifications of the witness to testify in answer to the question.

A. In a match box or a paint can there is no seriousness attached to the lock giving way. In an electrical socket, however, it is a serious matter if a shell becomes loose, for the reason that a person may be badly burned through handling it, and, if no bodily harm came from it, it might, on the other hand, blow a fuse and cause considerable inconvenience by depriving a household of light, and this may continue until a representative would call from the electric light station and put in a new fuse, for, even today, people are afraid to do anything with the circuit even to putting in a fuse.

96 United States District Court, District of New Jersey.

WEBER ELECTRIC COMPANY,

vs.

E. H. FREEMAN CO.

Depositions Taken on Behalf of the Complainant in Rebuttal, under the Order of the Court and the Statute, Pursuant to Adjournment, at the Office of Adams & Chambers, Room 127, Post-Office Building, New York City, at 10 o'clock a. m., January 31, 1914, before Frederic M. Adams, Standing Examiner.

Appearances:

Frank C. Curtis, Esq., counsel for complainant.
David P. Wolhaupter, Esq., counsel for defendant.

97 HENRY PRICE BALL, a witness called on behalf of complainant, and first duly sworn, testified as follows:

It is hereby stipulated and agreed that the annexed direct deposition is a correct copy of a deposition given by this witness in the United States District Court for the Southern District of New York in Weber Electric Company vs. National Gas & Electric Fixture Company, and that the witness if examined in this cause would testify to the same effect as in said deposition, and that said deposition may be offered and used herein with the same force and effect as though separately taken herein, and that the several exhibits referred to in said deposition may be offered and used herein with the same force and effect as though proved herein by like evidence.

Cross-examination.

By Mr. Wolhaupter:

X Q. 24. I understand, Mr. Ball, that you have been connected with the electrical business both commercially and technically from the year 1888 to the present time?

A. Yes, sir.

X Q. 25. As the result of this long experience, would you undertake to say that you are familiar with the construction of all types of the electrical lamp sockets that have been placed on the market during those years?

A. No, sir. My experience with lamp sockets terminated from the manufacturing and designing standpoint in 1893, at which time I left the General Electric Company and took the position as superintendent of the Carpenter Enamel Rheostat Company at 98 Bridgeport, which concern manufactured rheostats. The work I did personally on sockets was done prior to that. At Schenectady, where I had an experimental department for the development of new and the improvement of old devices. It was dur-

ing my stay in Schenectady and a short time prior to that, in N
York, that I became acquainted with August Weber, Jr., and
operated with him in the development and manufacture of sock
Later on, however, in December, 1908, I took the position of en
neer of the heating device department of the General Electric Co
pany at Pittsfield. During this interim Mr. Weber had design
and developed to a commercial finality his snap-shell socket, a
all other manufacturers, to my knowledge, had shifted over to
general construction, their designs being based on his ideas, a
through their adoption had raised the status of the socket situat
from one of unreliability and actual danger to person and proper
as I knew it in Schenectady, to one of reliability, safety and co
venience, as I found it when I re-entered the electrical field wh
had to do with sockets. My work in producing heating devices w
intimately associated with the general socket situation, but I was
longer uncertain of their reliability, nor did any such question ar
in my mind as would have in any way prompted me to make
analytical study of sockets on the market, for the reason that all so
ets on the market having by that time become reliable and sa
it was only necessary for me to limit the wattage of my devices
those prescribed by the underwriters for use in sockets.

199 at the time I started to design heating devices for use in so
ets, the sockets were not reliable the first problem would ha
been to investigate the socket situation. The principal difficulty w
had experienced in the past with sockets lay in their not remainin
put together after once installed, and notwithstanding the fact th
while in Schenectady we had a number of highly skilled invento
and mechanicians working for me and with me on this proposition
the side screw clamp was the best we were able to accomplish. A
though we had other means of holding socket shells together th
were not as good as the Lange type having the side screws. I ha
one man in Schenectady by the name of Trigge who gave all h
time to the working out of models based on his and my ideas, an
we developed a number of models with the sole purpose of doin
away with the side screws. In these models we screwed the she
together, our effort being to do away with the unreliability and da
ger incident to the use of the side screws. There was also conside
able annoyance attached to these side screws working out and b
coming lost in transit. We also had difficulty in buying screw
which would fit the holes when tapped. I personally was subjecte
to considerable annoyance in all of these ways, as I had had pr
vious experience in wiring houses and buildings, and the idea o
getting rid of the side screws was always uppermost in our minds.

X Q. 26. You speak of a period when the Weber snap-socket w
reduced to the commercial finality. Are you able to give a da
when that point was reached in the development of the Web
200 snap-socket?

A. When I was with the General Incandescent Arc Ligh
Company in 1901 or 1902, I was employed in designing a line o
high tension central station apparatus which required special porc
lain insulators of high di-electric strength, and I applied to M
Weber for them. His son August, Jr., called at our plant at 33r

Street and First Avenue and had with him the new socket with the snap shell completely developed, made from tools and ready to sell, as far as I could judge from the sample. I was very much surprised, to speak frankly, when I saw this sample, as it employed a means of fastening the shells together which was always considered by every one that I knew a cheap and inefficient substitute for something better. I felt sorry for Mr. Weber, as I knew he had been making a success of furnishing porcelain parts, especially to the General Electric Company, and I was afraid this new venture of his, of going into the metal parts of the socket would be disastrous. To my mind there was only one way out, and that would be for him to exercise greater ingenuity in the manufacture of the socket than had been exercised in the past in the manufacture of any snap-catch that I knew of, and I am still surprised today at the number of Chinese copies, so to speak, of Mr. Weber's invention, as to how well they operate, all of which goes to show me now that Weber was right, and I was wrong.

Mr. Wolhaupter: The last three sentences of the witness' answer are objected to on the ground of being unresponsive, and being merely volunteered personal opinion.

XQ. 27. When you saw this sample of the Weber snap socket at the time referred to in your last answer, did it contain the Weber interior such as found in the Weber sockets now on the market?

A. I did not analyze the socket to this extent. My attention was solely taken up with the snap shell feature, which to me was a very audacious design.

XQ. 28. Then as a matter of fact, at the time referred to, you did not know whether or not the Weber snap socket was ready for the market?

A. Yes, I did, for the reason that I knew something of Mr. Weber's relations to the General Electric Company, and I had been informed he was making porcelain bases for them in large quantities, and I was told he was making the interior metal parts. The question never came into my mind as to whether these metal parts would be exactly like those of the General Electric Company, or not, but the model I saw appeared to be a finished job. You understand, of course, the porcelain interiors would have to be made with finished tools ready for manufacture; also the key of the socket and the shell, so far as I could see, was also a finished job made with tools, very nicely constructed and so well put together that I thought Weber could not be able to keep up the same standard of workmanship when he got to making the sockets in large quantities. The up-keep of the dies would have to be more closely watched than anything I was familiar with, and it was this point that bothered me more than the internal mechanism, a number of which could have been used successfully in the same shell. In other words, the invention, as I saw it, was very largely in the means of producing a socket which would not fall to pieces shortly after it was installed, and one that would be adapted for different interiors, so that improvements could be made in the mechanism from time to

time, and the high cost of the factory equipment for producing such a nicely constructed socket shell would not militate against its adoption.

X Q. 29. Do I understand this last answer of yours to mean that you do not know what was the construction of the interior parts of the metal snap socket which you saw in 1901 or 1902. I am asking this question without asking for any further expression of your personal opinion or views, simply the fact whether you did or did not know the construction of the interior of the Weber socket which you saw at that time?

A. Yes.

X Q. 30. Are you able to give a date when you first acquired knowledge of the construction of the Weber snap socket?

A. If your question has reference to the interior mechanism the answer is no.

X Q. 31. I repeat the question and confine it solely to the Weber construction for locking the shells of the cap?

A. In the fall of 1901 or the spring of 1902, my recollection being based on our necessities for porcelains, as explained above.

X Q. 32. Who first explained to you the Weber means for
203 locking the shells to the caps of the lamp sockets?

A. August Weber, Jr., as explained above.

X Q. 33. What explanation did he give you at that time of the construction for accomplishing that result?

A. As I remember it, he did not explain the socket fastenings, but simply handed it to me with silent pride, and I looked upon it as a curiosity. I saw at once what he was trying to do, as it was the very thing I was trying to do myself, and others were working along the same line. An explanation was not necessary, especially to me, and August Weber, Jr., knew perfectly well what I had been doing for years in the socket line; in fact, he and his brother John both worked in the factory at Schenectady only a short distance away from our experimental room, the sample I saw, as I stated before, was beautifully made, and worked with such a nice precision that I could not help admire it. When the two parts of the shell were pushed together it slid with an easy motion and then came to a definite snap spring lock without any longitudinal lost motion, and the point that appealed to me, in addition to those already stated, was the fact that here at last a socket was produced which required an entirely different movement to take it apart, than the movement of inserting or detaching a lamp, flat iron, coffee percolator, toaster, or any one of the large variety of devices that had come on the market since I left Schenectady. The experience we had with using the ordinary side screw sockets with the lamps was bad enough, and I could see that here Weber had opened up much greater possi-
204 bilities with this new socket that August Weber, Jr., showed me. When I was inspector for the Philadelphia Edison Company I had a bed in the station, and I was called up at all hours of the night on trouble calls. Most of these were due to sockets having fallen to pieces and blowing fuses, putting the printing houses in darkness, causing great inconvenience, and in those days

ubjecting our customers to considerable fear. Here was a socket hat would overcome all of this. It was very firmly impressed on my nind from the experience I had had with the use of sockets. If Weber could only manufacture the sockets cheaply enough, and as good as the sample I saw, the whole difficulty would be solved. I lo not recall any instance during the time that I was called out while nspector, where the interior mechanism of the socket failed. The rouble was always with the shell. There was nothing in the electric rt in those days which discredited the business so much as the ocket. Later on when I had an opportunity to work on sockets and nake original designs and take out patents on sockets, it seemed trange to me now that I did not invent the snap shell myself, or at east some of the highly skilled men who were working with me at he time. The only explanation, perhaps, that can be offered is that lluded to above, that while snap devices were known, such as door atches and snaps on metal boxes, yet these were always cheap affairs, rudely made, and their lack of operating at a high efficiency did not come into play. We were striving for the best that we could get. What better was there than a bolted connection? We could not rivet the shells together, so the next best thing as to screw them together as tightly as possible. This was done by nserting a separate stirrup on the inside of the cap, between which wo parts the shell was held, thereby depending, to a large extent, n the greater surface friction introduced between these members. t is understood, of course, that a successful socket must be easily ttended at to wire, and when assembled must stay put. On the other and, there are times when it is desirable to remove the shell and his must not be lost sight of. It might have been possible in the old ays to have provided some means for the side screws not coming ose, but this was not the case. The snap socket was the first device ever saw that accomplished this purpose.

Mr. Wolhaupter: The entire answer of this witness, excepting the rst sentence, is objected to as clearly unresponsive and containing olunteered personal opinions.

X Q. 34. Do you know, Mr. Ball, whether or not the General lectric Company is in any way interested in the outcome of this uit?

A. I don't know anything about it. The General Electric Company did not ask me to testify in the suit, and I don't know their elations in the matter at all.

X Q. 35. What is your purpose, if any, in going into an extended dissertation on the merits of the Weber socket, lauding it from every possible angle in answer to questions not directed thereto at all?

A. My sole object in giving you all of the facts and trying not o hold back any, is to see Mr. August Weber get justice, and acnowledgment for the pioneer work he has done in this field, and hile I have expressed personal opinions which may not have been direct answer to your inquiry, I have done so inadvertently without any intention whatsoever of making my testimony more verbose

than necessary to bring out the real facts in the case. Of course, you understand that your questions are touching only the high spots. When you get right down to the facts in the case, you will find August Weber invented something of a high order, which knocks at the foundation of our business, and I want to see him get everything he is rightfully entitled to. This is my sole purpose. I have no interest in Mr. Weber's business, nor in any other socket business, nor have I any relation in any way, personally or financially, with the socket industry.

Mr. Wolhoupter. The foregoing answer is objected to for the reason that it contains a volunteered expression of personal opinion regarding the alleged position of the Weber invention in the art, and the Court's attention is directed, in connection with this answer, to the avowed intense partisanship of this witness, who has not been called as an expert witness to give personal opinion, but simply as a fact witness.

207 Mr. Curtis. Counsel for complainant wishes to state that so far as the last answer is concerned, he believes that it will be perfectly apparent to the Court that it is directly responsive to the question, and is exactly what counsel inquired for, and the placing upon the record of a statement purporting to call the attention of the Court to any alleged impropriety in said answer is objected to as wholly unwarranted.

X Q. 36. Leaving the Court to construe the facts, and therefore refraining from expressing your personal opinion, I ask you the simple question as to what structural features were possessed by the Weber snap socket first shown to you by August Weber, Jr., providing means for locking together the shell and the cap of the socket?

A. The shell was provided with projections semi-circular in shape sheared through along the diameter and engaging with semi-circular openings in the side of the cap, so that when the two parts were slipped together longitudinally the sheared edge of the projection engaged with the straight side of the opening, and so arranged that if the side of the shell was pinched or pressed inwardly, these surfaces would become disengaged and the shell could be removed from the cap. The shell therefore acted like a spring to lock the parts together, and as all the strain on the socket was arranged to be taken up in every direction without lost play, there was no wear and tear possible on the surfaces, nor could they become loose by vibration.

208 X Q. 37. Did the Weber socket that was shown to you by August Weber, Jr., embody any means for preventing relative rotation of the shell and the cap, and if so, please describe the same?

A. The shell, as I remember it, was provided with a longitudinal projection which engaged with a notch in the edge of the cap. This was not only for the purpose of preventing relative rotary motion, but to bring the locking members into proper juxtaposition.

X Q. 38. Referring to the Lange type of socket, are you able to state generally for how long that type of socket was in commercial

use, that is, prior to your first acquaintance with the Weber snap type of socket?

A. I think the Lange socket came into commercial use, to my knowledge, about the time I entered the electrical field, in 1888 or 1889, and was still on the market when I left Schenectady in 1893.

X Q. 39. Do I understand your testimony correctly in the particular that you understood the main objection to the Lange type of socket was as to the use of the screws for fastening the shell and cap together?

A. Yes, the fundamental difficulty with the Lange socket was in the screws, and instead of getting something better than the screws, we continually tried to overcome the difficulties that arose from their use by such expediences as a bayonet catch on the shell which engaged with the screws and necessitated a certain rotary motion between the shell and the cap before the shell would drop off. We also had a threaded insulated ring between the screw shell and the outer shell, so that if the screws got loose this ring would tend to hold the
209 parts together. In this, however, it was not successful. We tried cheapening the socket by making this ring of porcelain, but the breaking of the porcelain prevented. Later on a paper tube was inserted in the socket shell, so that in case the screws got loose the shell could not tilt over obliquely and ground on the screw shell. We tried riveting over the ends of the screws so that they would not become lost in transit, but we knew of no way to prevent the screws loosening up. If we had succeeded in doing that, the Lange socket would have been successful. We had made a type of socket at the same time as the Lange socket for chandelier use, where the shells were screwed together. In this socket we had a fibre tube between the screw shell and the outer shell. By "we" in this connection I mean the New York works of the Edison General Electric Company at 17th Street and Avenue B, where Mr. Weber was manufacturing superintendent, and I was assisting W. S. Andrews in the designing of a complete line of apparatus.

X Q. 40. These occurrences with reference to the development of the Lange socket and the modification thereof in the particulars you mention were all in the period between 1888 or 1889 and 1893, were they not?

A. No; at the time I was transferred to the New York works they were manufacturing and selling the Lange socket, also the chandelier socket referred to known then as Hutchinson's socket gotten out by Joseph Hutchinson, the manager of the works. The introduction of the paper lining in the shell, as I recall it, came along after I left Schenectady.

210 X Q. 41. You speak in your direct examination also of a chandelier socket made by S. Bergman & Co., I believe. Were these Bergman sockets contemporary with the Lange socket, that is, were they on the market at the time of your leaving Schenectady in 1893?

A. The chandelier socket referred to above is the same one that has been designated as Bergman's socket, in the sense that Bergman

manufactured it, Bergman having been bought out by the United Edison Manufacturing Company prior to my going to the works. Bergman's factory was located at 17th Street and Avenue B, New York City, and this was transferred later to Schenectady, at which time I went up there with it.

X Q. 42. At that period were you familiar with the construction of the Bergman chandelier socket?

A. Yes, it was part of our job to improve this socket, or to get out a better one. The sales, however, were very small, and it could only be made in the keyless type, and we therefore concentrated our efforts on the other type of the Bergman socket which has been referred to in this testimony as the Lange socket. During the time of the early development of these sockets there were many changes in the companies. After leaving college in 1888 I went with the Philadelphia Edison Company, then with the Sprague Electric Railway & Motor Company, this was absorbed by the United Edison Manufacturing Company, which company then acquired Bergman Company, and later became the Edison General Electric Company, and afterwards united with the Thomson-Houston Company, which is the present
General Electric Company.

211 X Q. 43. From your explanation of the Bergman sockets, do I correctly gather it to be your experience that the principal objection thereto was the screw connection between the shell and the cap?

A. Yes.

X Q. 44. In other respects, then, the Bergman socket was entirely practical and safe for the conditions for which it was intended?

A. Yes, the other weak point in the Lange socket was the threaded ring, which insulated the outer shell from the screw shell. This was expensive and worked loose and became lost. If the side screws had held the socket shells tight *there* would not have come any from this, however. Therefore, I take it that the side screws were the source of all the trouble.

X Q. 45. Comparing the objectionable insulating feature of the Lange socket, with the side screws, and the Bergman socket having the screw connection between shell and cap, do I understand that the Bergman socket was not open to such objection regarding the insulation? In giving your answer, explain what provision was made in the Bergman socket for insulating the interior metal parts from the metal casing?

A. There were two types of sockets made, they were both made by the Bergman Company and both designated as Bergman sockets, the one of the Lange type and the other the Hutchinson or chandelier socket. The Lange socket was provided with a threaded insulating ring to insulate the outer shell from the interior live parts, while the Hutchinson or chandelier socket was provided with a fibre tub-
212 ing between these similar parts. Both types of insulation were sufficient for the purpose if the shell of the socket did not work loose or drop off. The fibre tubing in the Hutchinson socket was better than the threaded insulating ring of the Lange socket, but it was more expensive. In those days we did not know how to make a

fibre tube of different diameters. We were obliged, therefore, to use the threaded insulating ring on the Lange type of socket. In both sockets we had the trouble of the shells working loose.

X Q. 46. Did the Bergman or Hutchinson chandelier sockets, as you knew them, have insulating fibre in the cap as well as in the shell part?

A. I don't recall whether it did or not.

X Q. 47. I hand you two electrical lamp sockets, one being a key socket and the other a keyless socket. Please examine those sockets and say if you are able to identify them as commercial sockets with which you are or have been familiar (handing sockets to witness)?

A. The keyless socket is similar to, if not the exact design, of the one I referred to above, though in some details it seems to be slightly different. The sample has a different shape of shell. If my memory serves me right the ones we made were made of tubing, while the sample is apparently made of drawn cup.

The insulating lining in the sample is also made of fibre paper, where we used to use fibre tubing, which is harder than the paper. In other words, I should say the sample was a cheapened design from the original with which I was familiar at the New York works,
213 which we have designated as the Hutchinson chandelier socket.

The key socket which you have handed me I do not recognize. It has the Thomson-Houston type of mechanism in it and the General Electric name plate, which would indicate it was put on the market, if at all, since I left Schenectady in 1893. The key sockets made in Schenectady at the time I left had mechanisms in them under patents taken out by Amandus Metzger and myself as joint inventors.

The keyless socket referred to in the answer of the witness is offered in evidence to illustrate the prior art, and the Examiner is requested to mark the same "Defendant's Cross-Exhibit No. 1, January 31, 1914, F. M. A., Exr.

Mr. Curtis: Objected to as immaterial and not properly proved.

X Q. 48. I now hand you two other samples of commercial lamp sockets, one being a key socket and the other a keyless socket. Can you identify these two exhibits as commercial types of sockets with which you are or have been familiar (handing witness sockets)?

A. The key socket is not one with which I am familiar as a commercial socket. The little plunger with an insulating tip on the end is similar to the pin in the Bergman type of socket which we were manufacturing, but I do not recall that we were manufactur-
214 ing at the time I was at the New York works, any socket of this kind; I do not think it would be a satisfactory design.

The keyless socket which you submit, I recognize in several particulars as the one we made and which I have designated as the Hutchinson chandelier socket. "We" means the company, as heretofore explained.

The keyless socket referred to and identified by the witness in his last answer, is offered in evidence and the Examiner is requested to

mark the same "Defendant's Cross-Exhibit No. 2, January 31, 1914, F. M. A., Exr.

Counsel for complainant offers in evidence the annexed direct deposition of this witness referred to in the foregoing stipulation, and he also offers in evidence each of the exhibits referred to in said direct deposition, the same being entitled in this cause and each with the title under which it was originally introduced.

HENRY PRICE BALL.

215 United States Circuit Court, Southern District of New York.

In Equity.

WEBER ELECTRIC COMPANY

vs.

E. H. FREEMAN COMPANY.

On Patent No. 743,206.

UNITED STATES OF AMERICA,
Southern District of New York, ss:

I, Frederic M. Adams, an examiner duly appointed by the District Court of the United States, for the Southern District of New York, do hereby certify that the foregoing proofs for final hearing were taken before me in the above entitled cause on the part of the complainant under and pursuant to the 67th Rule of the Supreme Court of the United States, as amended.

I Do Further Certify that I am not of counsel nor attorney for either of the parties, nor in anywise interested in the event of said case.

I Further Certify that Frank C. Curtis, Esq., appeared on the part of the complainant, and David P. Wolhaupter, Esq., appeared on the part of the defendants in taking said proofs.

Dated, New York, January 31, 1914.

FREDERIC M. ADAMS,
Examiner.

216 *Complainant's Exhibit Certificate of Incorporation.*

We, the undersigned, all being persons of full age, and at least two-thirds being citizens of the United States and at least one of us a resident of the State of New York, desiring to form a stock corporation, pursuant to the provisions of the Business Corporations Law of the State of New York, do hereby make, sign, acknowledge and file this certificate for that purpose, as follows, to wit:

First. The name of the proposed corporation is Weber Electric Company.

Second. The purposes for which said corporation is to be formed are as follows, viz: to manufacture, use, acquire, buy, sell and deal in, or otherwise dispose of, all kinds of electrical appliances, supplies, devices and specialties, and all kinds of porcelain and clay products, and all business incidental and appurtenant thereto; to apply for, obtain, register, purchase, lease or otherwise to acquire, and to hold, own, use, exercise, develop, borrow, introduce, operate, sell, assign or otherwise dispose of to grant licenses in respect of and otherwise turn to account any and all trade-marks, trade-names, copy-rights, patents, patent rights, licenses, inventions, improvements and processes, used in connection with or secured under letters-patent of the United States, or elsewhere or otherwise, provided always that the terms "use" and "operate" shall not be deemed to include any business except such as is permitted by the Business Corporations Law; to buy, lease or otherwise acquire, to hold, own, use, manage, improve, develop, sell, assign, transfer, rent, mortgage, exchange and deal in such property, real or personal, as may be necessary
217 or convenient for furthering the business of said corporation; to purchase, lease or otherwise acquire the good will and all or any part of the business, assets, rights, patent rights, and property, real or personal, of any person, firm, association or corporation, now or hereafter engaged in a business similar to that proposed to be carried on under this certificate of incorporation, and in the purchase of the same to assume any and all liabilities that may be then existing upon or against the same, and to pay for the whole or any part thereof in cash, in the stock of this corporation, in bonds or otherwise; to hold or in any manner dispose of said good will and all or any part of said business, assets, rights, patent rights and property or to conduct the same or any part thereof in any lawful manner, provided the same is within the authorization of the Business Corporations Law and to exercise all the powers necessary or convenient in and about the conduct and management of the same.

Third. The amount of the capital stock is twenty-five thousand dollars ($25,000.00).

Fourth. The number of shares of which the capital stock shall consist is two hundred and fifty (250) of the par value of one hundred dollars ($100.00) each, and the amount of capital with which said corporation will begin business is one thousand dollars ($1,000.00).

Fifth. The principal business office of said corporation is to be located in the Town of Rotterdam, County of Schenectady, State of New York.

Sixth. Its duration is to be fifty years.

218 Seventh. The number of its directors is to be three.

Eighth. The names and post-office addresses of the directors for the first year are as follows:

Names.	Post office addresses.
August Weber	No. 635 Chapel Street, Schenectady, N. Y.
John Weber	No. 628 Terrace Place, Schenectady, N. Y.
August Weber, Jr.	No. 635 Chapel Street, Schenectady, N. Y.

Ninth. The names and post-office addresses of the subscribers of this certificate and a statement of the manner of shares of stock which each agrees to take in the corporation, are as follows:

Names.	Post office addresses.	Number of shares.
August Weber	No. 635 Chapel Street, Schenectady, N. Y.	4
John Weber	No. 628 Terrace Place, Schenectady, N. Y.	3
August Weber, Jr.	No. 635 Chapel Street, Schenectady, N. Y.	3

In Witness Whereof we have made, signed, acknowledged and filed this certificate in duplicate.

Dated, this 3rd day of April, 1905.

AUGUST WEBER.
JOHN WEBER.
AUGUST WEBER, JR.

219 STATE OF NEW YORK,
County of Schenectady, ss:

On this 3rd day of April, 1905, before me personally came August Weber, John Weber and August Weber, Jr., to me personally known to be the persons described in and who made and signed the foregoing certificate and severally duly acknowledged to me that they had made, signed and executed the same for the uses and purposes therein set forth.

THOMAS R. TILLOTT, JR.,
[L. S.] *Notary Public.*

COMPLAINANT'S EXHIBIT—ASSIGNMENT OF PATENT IN SUIT ASSIGNMENT.

Whereas, I, August Weber, Sr., of Schenectady, N. Y., am the sole owner of the whole right, title and interest in and to each of the following Letters Patent: No. 743,206, granted November 3, 1903, for Incandescent Electric Lamp-Sockets; No. 743,207, granted November 3, 1903, for Incandescent Electric Lamp-Sockets; No. 743,358, granted November 3, 1903, for Incandescent Electric Lamp-Sockets, and No. 904,821, granted November 24, 1908, for Shade-Holders for Incandescent Electric-Lamps, and,

Whereas, Weber Electric Company, of Schenectady, N. Y., a corporation organized under the laws of the State of New York, is desirous of acquiring my said interest in and to each of said
220 Letters Patent, and the inventions therein shown and described.

Now, therefore, be it known that for and in consideration of the sum of one dollar to me in hand paid, the receipt of which is hereby acknowledged, I have sold, assigned and transferred, and do hereby sell, assign and transfer unto the said Weber Electric Company, its successors and assigns, the whole right, title and interest in and to said Letters Patent, and each of them, and in and to the inventions, and each of them, therein set forth, to have and to hold the same to the full end of the respective terms for which said Letters Patent are or may be issued.

Witness my hand and seal this 1st day of February, 1909.

AUGUST WEBER, Sr. [L. S.]

STATE OF NEW YORK,
County of Schenectady, ss:

On this 1st day of February, 1909, before me personally came August Weber, Sr., to me personally known, and known to me to be the person described in and who executed the above instrument, and he duly acknowledged to me that he executed the same.

WM. C. MARLETTE,
[L. S.] *Notary Public, Schenectady, N. Y.*

221 Department of the Interior, United States Patent Office.

Received and recorded on the 3rd day of February, 1909, in Liber T. 80, page 248, of Transfers of Patents.

In testimony whereof I have caused the seal of the Patent Office to be hereunto affixed.

[L. S.] E. B. MOORE,
Commissioner of Patents.

Exd.
E. H. G.

COMPLAINANT'S EXHIBIT ASSIGNMENT OF DAMAGES AND PROFITS ASSIGNMENT.

In consideration of the sum of one dollar to me in hand paid, the receipt of which is hereby acknowledged, I, August Weber, Sr., of Schenectady, N. Y., have sold, assigned and conveyed, and do hereby sell, assign and convey unto Weber Electric Company, of Schenectady, N. Y., a corporation organized under the laws of the State of New York, all claims and demands whatsoever for damages and profits for, or by reason of, infringements of Letters Patent of the United States, Nos. 743,206 and 743,207, dated November 3, 1903, for improvements in Incandescent Electric Lamp-Sockets, or either of said Letters Patent since the date thereof.

April 23, 1909.

AUGUST WEBER, Sr.

222 STATE OF NEW YORK,
County of Schenectady, ss:

On this 23rd day of April, 1909, before me personally came August Weber, Sr., to me personally known, and known to me to be the person described in and who executed the above instrument, and he duly acknowledged to me that he executed the same.

[L. S.] J. LESLIE SCHOOLCRAFT,
Notary Public.

COMPLAINANT'S EXHIBIT—ECAUBERT BILL.

New York, Jan'y 12th, 1898.

Mr. August Weber, to F. Ecaubert, Dr.

Machinist. Watch Case Makers' and Jewelers' Tools,

18 and 20 Rose Street.

Terms: Net cash subject to Draft at Maturity.

No. 3253. Dies for lamp socket.....$13.80

Received Payment,
F. ECAUBERT, Per M. E.
Thanks.
(Pen sketch of Weber snap sleeve.)

223 & 224 COMPLAINANT'S EXHIBIT WEBER CHECK.

State of New York. No. 433.

Schenectady, N. Y., January 13, 1898.

The Mohawk National Bank.

Pay to the order of F. Ecaubert $13.80-100 Thirteen 80-100 Dollars.

A. WEBER.

(Endorsed.)

F. Ecaubert.
The Oriental Bank, N. Y., Jan. 17, 1898.
American Ex. Nat'l Bank, New York.
National Exchange Bank, Albany, N. Y.
(Also punched "Paid")

225 United States District Court, District of New Jersey.

In Equity.

WEBER ELECTRIC COMPANY

vs.

E. H. FREEMAN ELECTRIC CO.

On Patent No. 743,206.

Rebuttal testimony taken on behalf of Plaintiff under the order entered March 1, 1915, by agreement of Counsel, before Rose A. Leduc, Notary Public, at the office of Frank C. Curtis, Cannon Place, Troy, N. Y., April 16, 1915, beginning at 10:00 A. M.

Appearances:

Mr. Frank C. Curtis, Counsel for Plaintiff.
Mr. David P. Wolhaupter, Counsel for Defendant.

ALBERT F. GANZ, a witness called on behalf of plaintiff, and first duly sworn, testified as follows:

Examined by Mr. Curtis:

Q. 42. Are you the same Albert F. Ganz who has heretofore testified on behalf of plaintiff in this cause.

A. I am.

Q. 43. I show you Defendant's Exhibit, Benjamin Patent, and Defendant's Exhibit, Benjamin Socket, and ask you to examine the same and state what, if any, bearing these exhibits have, in your opinion, upon claims 1, 2 and 3 of patent No. 743,206 in
226 suit, if considered as prior to the invention of the patent in suit?

A. Comparing the exhibit Benjamin socket with the Benjamin patent referred to, I find that Figs. 1 to 7, inclusive, of the Benjamin patent illustrate a type of socket which is in general like the exhibit socket, while Figs. 8 to 12, inclusive, of this Benjamin patent illustrate sockets different in type from the exhibit Benjamin socket.

There are marked differences, however, between the socket illustrated in Figs. 1 to 7, inclusive, of the Benjamin patent and the exhibit Benjamin socket. The principal difference is that in the patent the cap-member, *c*, of the the sockt-casing is shown as a casting with cast-on projections, *c2*, in the interior of the cap which engage with recesses, *a9*, in the porcelain base which prevent relative rotary movement of the porcelain base inside of the cap. In the exhibit Benjamin socket, the cap is punched from thin sheet-metal and indentations in this sheet-metal form inward projections which

engage with recesses in the porcelain base to prevent rotative movement of this base inside of the cap.

Comparing the exhibit Benjamin socket and the socket shown in Figs. 1 to 7, inclusive, of the Benjamin patent with claim 1 of the Weber patent No. 743,206, here in suit, I find that both the exhibit socket and the socket illustrated and described in the Benjamin patent differ radically from the structure described in claim
227 1 of Weber patent No. 743,206. The structure of claim 1 comprises the combination in an incandescent electric lamp socket of an insulating base with an enclosing case consisting of a cap and a sheet-metal sleeve adapted to automatically interlock with a snap action when telescopically applied to each other and to be released by compression of said sleeve. Neither the exhibit Benjamin socket nor the disclosure of the Benjamin patent comprises a socket enclosing-case adapted to automatically interlock with a snap action. The sheet-metal sleeve of the structure of claim 1 is to have a slotted end for the purpose of making it compressible. The sleeve of the exhibit Benjamin socket and the Benjamin patent is not slotted; and if it were slotted to make it compressible, it would be inoperative as a satisfactory fastening device. Claim 1 also requires the sheet-metal sleeve to have introverted tongues for the purpose of engaging with the insulating base so as to prevent relative rotary movement between the base and sleeve. The sleeve of the exhibit Benjamin socket and of the socket of the Benjamin patent does not have such introverted tongues and in fact such introverted tongues could not be used with the Benjamin structure for the reason that the sleeve in the Benjamin device is screwed into the cap, requiring a number of complete revolutions of the sleeve to be made in order to fasten the sleeve to the cap, so that if projections from the sleeve were to engage with the insulating base, the
228 latter would be rotated with the sleeve when the members are assembled, with the result of twisting the circuit wires and possibly breaking them off.

It is my opinion in fact that the exhibit Benjamin socket, as well as the socket of the Benjamin patent, is very different in its construction, mode of operation, and in results obtained from the structure of claim 1 of the Weber patent No. 743,206.

Comparing the exhibit Benjamin socket and the socket of the Benjamin patent with claim 2 of the Weber patent No. 743,206 here in suit, it will be seen that claim 2 requires the enclosing-case to comprise a sheet-metal sleeve having a portion of its wall introverted so as to occupy recesses in the insulating base for the purpose of preventing relative rotary movement between the insulating base and the sleeve. In the exhibit Benjamin socket, and also in the socket of the Benjamin patent, the sleeve-member does not have its wall introverted in the manner and for the purpose set forth and described in claim 2, and in fact with the type of fastening employed with the Benjamin device, it would not be practicable to employ introverted portions of the sleeve engaging with recesses in the insulating base for the purpose of preventing relative rotation. The reason for this is that the sleeve is fastened to the cap in the

Benjamin device by screwing the two parts together, a number of complete revolutions of the sleeve being required for this
229 fastening. If introverted portions from the sleeve engaged with recesses in the insulating base, the result would be that the insulating base would be rotated with the sleeve when the latter is screwed into the cap for the purpose of fastening the two parts together. In use this rotation of the insulating base would twist the circuit wires with possible damage to the insulation and in fact with possible danger of twisting off the wires. I am in fact strongly of the opinion that a device made in this manner would be too dangerous to be useful as a commercial device. The manner of supporting the insulating base inside of the enclosing-case in the Benjamin device, by inward projections from the cap engaging with recesses in the insulating base, is therefore substantially different in construction and mode of operation from the means employed for this purpose in the construction of claim 2 of the Weber patent.

Referring to claim 3 of the Weber patent in suit, this claim describes a screw-socket fixedly mounted upon the insulating base. In the exhibit Benjamin socket and in the socket of the Benjamin patent, there is no such screw-socket fastened to an insulating base, but this insulating base itself is interiorly screw-threaded for the purpose of mechanically supporting the incandescent lamp. A separate brass plate passing through a channel on the side of the screw-thread in this insulating base presses against the screw-socket of the lamp for the purpose of leading current to this terminal
230 of the lamp. Claim 3 also requires the enclosing-case of the socket to comprise in part a sheet-metal sleeve having a portion of its wall introverted to occupy a recess in the insulating base for the purpose of preventing relative rotary movement between the sleeve, base and socket.

In the exhibit Benjamin socket and in the socket of the Benjamin patent, the sleeve does not have a portion of its wall introverted for the purpose of engaging with recesses in the insulating base as required by claim 3, and could not in fact be provided with such introverted portions for the same reasons already explained in my comparison of claim 2 of the Benjamin device.

Summing up the comparison of the exhibit Benjamin socket and the socket illustrated and described in the Benjamin patent with claims 1, 2 and 3 of the Weber patent No. 743,206 here in suit, it is my opinion that both the exhibit Benjamin socket and the socket of the Benjamin patent differ materially in their construction, in their mode of operation, and in the results obtained, from the structure described and claimed in claims 1, 2 and 3 of the Weber patent No. 743,206.

Recess.

Session resumed after recess.

Cross-examination.

By Mr. Wolhaupter:

X Q 44. Had you any knowledge of the Benjamin lamp-socket represented by the Defendant's exhibit, Benjamin Socket, prior to your present examination of that socket?

A. I did not. I do not recall ever having seen any sockets
231 made like this Benjamin socket.

X Q. 45. Then I understand that you have never had the opportunity of seeing this Benjamin type of socket being installed, nor have you ever actually installed such a socket yourself?

A. It is a fact that I have never actually seen a Benjamin type of socket being installed and I have never actually installed such a socket myself. The manner in which such a socket must be installed is, however, so evident and simple that I am very sure that to see such a socket being installed or to install one myself would not be of any help in understanding very fully the manner of its installation.

X Q. 46. You have stated that there are marked differences between the socket illustrated in Figs. 1 to 7 of the drawings of the Benjamin patent and the exhibit Benjamin socket. Do these differ in any essential respects other than the one difference named by you?

A. The difference which I named is the most important one. I note also that in the socket illustrated in the Benjamin patent the contracting spring, *b*, is corrugated so as to fit the thread of the screw-socket on the lamp, whereas, in the exhibit Benjamin socket this contacting spring is flat and is not corrugated. There may be other minor differences, but I have not made a minute comparison of the exhibit socket with the patent drawings to determine this.

232 X Q. 47. Would you say that it made any difference in function whether the inward projections on the cap-portion of the casing were the cast-on projections of the Benjamin patent or were the pressed-in projections of the exhibit Benjamin socket?

A. I don't believe so. They are differences in construction rather than in function.

X Q. 48. As a matter of fact, Professor, would you not regard this as merely a difference in material, from a manufacturing standpoint, rather than a difference in construction?

A. It is more than a difference in material, because the manufacturing operations are different when constructing the cap as a casting, from what these operations would be when constructing the cap from sheet-metal.

X Q. 49. But the ultimate product is the same in each instance, is it not; that is, whether made of a casting or of sheet-metal. In both cases the cap portion of the casing is provided with inward rounding projections that engage correspondingly shaped recesses in the porcelain?

A. I would hardly say that the ultimate product is the same in each instance, but would say that both serve the same purpose.

X Q. 50. Then for the mechanical features which are specified in my preceding questions, you would say, would you not, that the construction in both examples given would be the same?

A. I would not say that the construction in both examples given would be the same, but would say that in both cases the cap
233 portion of the casing is provided with inward rounding projections that engage correspondingly shaped recesses in the porcelain.

X Q. 51. In your preceding answers, have you not used the word "construction" in its application to the process of the manufacture or means of making the two forms of socket?

A. I have largely done so, but of course a cap punched from sheet-metal is, as a matter of fact, lighter and more yielding than a cap which is cast.

X Q. 52. What is the purpose of the construction specified in claims 2 and 3 of the Weber patent in suit?

A. The purpose is to provide an incandescent lamp socket comprising in combination a base of insulating material having a peripheral recess; and an incandescent lamp-support or a screw-socket mounted on this base; and an inclosing case for the socket comprising in part a sheet-metal sleeve having a portion of its wall introverted to occupy the base recess, so as to prevent relative rotative movement between the base and sleeve.

X Q. 53. Is it your understanding that both of these claims of the patent in suit are directed solely to the feature of providing means "to prevent relative rotative movement between the base and sleeve," as the lamp-plug may be screwed into and out of the socket?

A. That is the sole purpose of the introverted projection from the sleeve engaging with a recess in the insulating base, but I should hardly say that this was the sole purpose of claims 2 and 3 of
234 the Weber patent. These claims describe combinations already recited in my previous answers.

X Q. 54. What other feature, if any, of the alleged invention of the patent in suit, is included or specified in claims 2 and 3 thereof besides the one feature that you have mentioned?

A. Claims 2 and 3 describe the combination of a base of insulating material, an incandescent lamp-support or a screw-socket, and an inclosing case, forming together an incandescent electric lamp-socket. The introverted projection from the sleeve engaging with a peripheral recess in the insulating base, for the purpose of preventing relative rotative movement between the base and sleeve, is an important feature of both of these claims.

X Q. 55. Am I not correct in understanding your former deposition in this case to the effect that you find in the art prior to the invention of the patent in suit the precise combination of elements specified in the first sentence of your last answer?

A. I believe that is true, although I have not recently read my previous deposition and have not recently examined the prior art.

X Q. 56. Do you find any requirement in either claims 2 or 3

of the patent in suit as to any particular means for fastening together the cap and sleeve portions of the casing?

A. No.

X Q. 57. And then do I understand that at the time of giving your former deposition in this case, it was your understanding that the novel feature specified in claims 2 and 3 of the patent
235 in suit was that of the introverted projections engaging recesses in the porcelain?

A. I gave my former deposition over two years ago, and cannot be sure that I remember just what my understanding was. I remember, however, that this was a novel feature of these claims.

X Q. 58. According to the invention specified in claims 2 and 3 of the patent in suit would the function of the introverted projections be in any way affected by the character of the fastening between the cap and sleeve portion of the casing?

A. Such introverted projections from the sleeve engaging with recesses in the insulating base could not be used with a socket casing in which the sleeve is fastened to the cap by being screwed into this cap, as in the Benjamin socket casing, because when in use, screwing the sleeve into the cap would rotate the insulating base and would thereby twist the circuit wires, which would be dangerous.

X Q. 59. That is, it is your understanding that claims 2 and 3 of the patent in suit would not include a lamp socket structure in which the cap and sleeve portions of the casing are connected by screw-threads?

A. I would not put it that way. Claims 2 and 3 do not specify any particular kind of fastening for the cap and sleeve members of the socket casing, so that claims 2 and 3 might apply to a socket in which the case members are screwed together. However, the construction of claims 2 and 3 would not be commercially
236 practicable for a socket having a casing like the Benjamin socket, in which the sleeve is screwed into the cap for the purpose of fastening the two members together.

X Q. 60. Do you base your opinion, as to the commercial impracticability of the combination you mention, upon the opinion expressed in your answer to X Q. 58?

A. Yes.

X Q. 61. According to the invention specified in claims 2 and 3 of the patent in suit, would the function of the introverted projection be in any way affected by the character of the incandescent lamp support mounted on or carried by the base?

A. I think not.

X Q. 62. You recognize, do you not, that the inward projections of the cap portion of the casing in both the Benjamin patent and the exhibit, Benjamin socket, co-operate with the recesses in the porcelain base to prevent the latter from turning when the lamp is screwed in or out?

A. They prevent the base from turning by the co-operation between the projections from the cap and the recesses in the insulating base.

X Q. 63. And this is the same function which is performed by

he inward projections of the sleeve portion of the casing engaging
ecesses in the base, as specified in claims 1, 2 and 3 of the patent in
uit, is it not?

A. I think not. With the construction specified in the Weber
atent in suit, recesses in the insulating base co-operate with inward
projections from the sleeve to prevent relative rotative move-
37 ment, so that a rotative effort applied to the base is directly
communicated to the sleeve, and is then communicated
rom the sleeve to the cap through the fastening device between the
leeve and cap. With the Benjamin device, on the other hand, a
otative effort applied to the insulating base is communicated directly
o the cap.

X Q. 64. Then the Benjamin socket possesses the advantage of
aving the fastening device between the cap and sleeve portions of
he casing entirely relieved of this rotative effort of the base?

A. I do not believe that there is any material advantage to either
rrangement in this respect. The mode of preventing rotative move-
ent between the insulating base and sleeve as specified in claims 2
nd 3 of the Weber patent could not be practically and safely ap-
lied to a socket having a casing like the Benjamin socket, for the
easons already given in my previous answers.

X Q. 65. When lamp sockets made respectively according to
laims 1, 2 and 3 of the patent in suit and according to the Ben-
min construction, are completely assembled upon the fixture where
ey are to be used, is it not a fact that in such condition ready for
e the inward projections engaging recesses in the porcelain base,
ill in both cases perform the same function, namely, to prevent ro-
tion of the porcelain base as the lamp may be screwed in or out
f the socket?

A. Both will prevent rotation of the porcelain base, but
38 with the Benjamin construction this rotation is prevented by
the recesses in the base co-operating with inward projections
on the cap, whereas with the Weber construction this rotation is
revented by recesses in the base co-operating with inward projec-
ons in the sleeve, so that in the latter case the rotative effort applied
the base is first communicated to the sleeve and then to the cap
rough the fastening device.

X Q. 66. According to this Weber construction as disclosed in the
tent in suit, if the lamp should have become tightly wedged or
ck within the lamp socket and sufficient rotative effort applied
ereto in the direction of unscrewing, would not the sleeve of the
sing be unlocked or released from the cap?

A. Not necessarily; it is more likely, to my mind, that the glass
ib of the lamp would twist away from the lamp-plug or the glass
uld break before the sleeve and cap member would become un-
cked.

Redirect examination.

By Mr. Curtis:

R. D. Q. 67. Did you testify as Plaintiff's expert in Weber Elec-
c Company vs. Wirt Manufacturing Company in the United States

District Court for the District of Massachusetts on Weber patent No 743,206?

A. I did.

R. D. Q. 68. Can you produce an incandescent electric lamp-socke the same as "Complainant's Exhibit, Defendant's Key Socket," which was involved in that suit?

A. The socket before me marked "Plaintiff's Exhibit, Wir
239 Key Socket," is the same as "Complainant's Exhibit, Defend ant's Key Socket" in that suit against the Wirt Company.

R. D. Q. 69. Can you produce an incandescent electric lamp-socke the same as "Complainant's Exhibit, Defendant's Keyless Socket," which was involved in that suit?

A. The socket before me marked "Plaintiff's Exhibit, Wirt Key less Socket," is the same as "Complainant's Exhibit, Defendant' Keyless Socket," in that suit against the Wirt Company.

Deposition closed.

Signature waived.

Counsel for Plaintiff offers in evidence a certified copy of the rec ord in the United States District Court for the Southern District o New York in Weber Electric Company vs. National Gas & Electri Fixture Company on Weber patent No. 743,206, and a certified copy of the transcript of record on appeal in the same case in the Unite States Circuit Court of Appeals; also a certified copy of a memoran dum decision of Judge Dodge in Weber Electric Company vs. Wir Manufacturing Company in the United States District Court for th District of Massachusetts on Weber patent No. 743,206, which mem orandum was entered April 9, 1914.

Counsel for Plaintiff also offers in evidence the exhibit, Wirt Ke Socket, and the exhibit, Wirt Keyless Socket.

240 Counsel for Plaintiff also offers in evidence the exhibi Lange-type Socket, referred to by the witness Hight in answe to Q. 9.

Counsel for plaintiff desires it to be noted that the following ex hibits in evidence herein are the same exhibits as were similarl marked in said suit of Weber Electric Company vs. National Gas Electric Fixture Company.

Wilhelm Drawing.
Weber Sleeve made by Ecaubert.
Weber Shell made by Ecaubert.
Ecaubert's books 1, 2 and 3.
Lange-type of Socket.
Ecaubert Bill.
Weber Check.
G. E. Flyer No. 2163.
G. E. Flyer No. 2178.
Snap-shell Key Wall Socket.
9386 Socket.
Weber First Hand-Made Shell.
Weber Second Hand-Made Shell and Cap.
Ecaubert Shell produced by Weber.

Ecaubert Sheil and Cap produced by Weber.
Yost Socket.
Early Yost Socket.
Counsel for Plaintiff also offers in evidence the exhibit Freeman Socket, which was an exhibit in said suit against the National Gas & Electric Fixture Company.

Counsel for Defendant objects to the offer and entry in this case of the records in the case of Weber Electric Company vs. National Gas & Electric Fixture Company on the ground of being incompetent in the present case.

It is hereby stipulated and agreed that uncertified copies of said transcripts of record and of said memorandum decision of Judge Dodge may be substituted for, and used with the same force and effect as, and subject to the same objection as, said certified copies, subject to correction.
The certificate of the Notary is waived.

PLAINTIFF'S EXHIBIT JUDGE DODGE MEMORANDUM.

District Court of the United States, District of Massachusetts.

No. 590. Equity.

(C. C. 590.)

WEBER ELECTRIC COMPANY

v.

WIRT MANUFACTURING COMPANY.

On Final Hearing.

Opinion.

(April 25, 1914.)

(To be Entered as of April 9, 1914.)

DODGE, *J.*:

This case was duly assigned for final hearing on April 9, 1914, and the defendant has been duly notified. The case having been called, the complainant appeared and offered the evidence heretofore taken on its behalf in the case. The defendant did not appear and I am satisfied that it neither intended nor desires to appear. The evidence heretofore taken on its behalf is on file in the case, but no one has offered it for consideration by the Court at the hearing. Under these circumstances, I think I am justified in disposing of the case upon the pleadings and complainant's evidence.

The validity of the patent in suit is established for the purposes of the hearing by the decision of the Court of Appeals for the Second Circuit in Weber Electric Co. v. National Gas &c. Co., handed down February 10, 1914, but not yet reported. The case there dealt with was a suit upon the same patent and the decision affirms the decision of the District Court reported 204 F. R. 79. The prior art has been also fully dealt with in that case and no anticipation found.

Upon inspection of the defendant's devices marked "Complainant's Exhibit, Defendant's Keyless Socket," and "Complainant's Exhibit, Defendant's Key Socket," and upon consideration of the complainant's evidence relating thereto, I find that the first of said devices infringes claims 1 to 4, inclusive, of the patent in suit, and that the other of said devices infringes claim 4 of the patent in suit.

There may be a decree for an injunction in accordance with the above. The complainant waives its right to an accounting.

A true copy:

Attest:
CHAS. K. DARLING,
[L. S.] *Clerk.*

243 In the United States Circuit Court for the District of New Jersey.

In Equity.

No. 743,206.

WEBER ELECTRIC COMPANY, Complainant,

vs.

E. H. FREEMAN ELECTRIC COMPANY, Defendant.

Answer.

The Answer of the E. H. Freeman Electric Company to the Bill of Complaint of the Weber Electric Company, Complainant.

This defendant, now and at all times hereafter, moving and reserving to itself all and all manner of benefit and advantage or exception which can or may be had or taken to the many errors, uncertainties, and other imperfections in said Complainant's Bill of Complaint contained, for answer thereto, or to so much and such parts thereof as this defendant is advised it is material or necessary for it to make answer unto, answering says:

First. The defendant does not know and is not informed, save by said Bill of Complaint, whether or not the Weber Electric Company is a corporation organized under the laws of the State of New York, a citizen of said State, and having its principal place of business at the city of Schenectady, in said State.

Second. The defendant admits that it is a corporation
244 organized and existing under and by virtue of the laws of the State of New Jersey and having its principal place of business at Trenton, in said State, within the judicial district aforesaid.

Third. This defendant has been informed and admits it to be true that on the 3d day of November, 1903, letters patent of the United States, No. 743,205, were issued to August Weber, Sr., of Schenectady, in the State of New York, for an alleged improvement in Lamp Sockets, but this defendant denies that the said August Weber, Sr., was the original, first, and sole inventor of the said alleged improvements in Lamp Sockets; denies that the said alleged improvements had not been known or used by others in this country before his invention or discovery thereof; denies that the same had not been patented or described in any printed publication in this or any foreign country before his alleged invention or discovery thereof, or more than two years prior to his application for letters patent therefor; denies that the same had not been in public use or on sale in this country or elsewhere for more than two years prior to his said application, and that no application for a patent for said invention had been filed in any foreign country, and denies that the said invention has not been abandoned.

Fourth. And this defendant further answering says that it does not know, and is not informed, save by said Bill of Complaint, whether or not the said August Weber, Sr., did properly make application for the aforesaid letters patent in accordance with the then existing acts of Congress, and leaves the complainant to make such proof thereof as it may be advised is material.

245 Fifth. And this defendant further answering says that it does not know and is not informed, save by said Bill of Complaint, whether or not the said August Weber, Sr., assigned, by proper instruments in writing duly executed and delivered, his said invention, his aforesaid application for U. S. letters patent, the right of recovery for past infringements of said letters patent, and all other rights and privileges granted and secured thereby, to the complainant; and, therefore, leaves complainant to make such proof thereof as it may be advised is material and necessary.

Sixth. This defendant further answering says that it does not know and is not informed, save by said Bill of Complaint, whether or not the complainant is now vested with, and possessed of, the full right, title and interest in and to the letters patent aforesaid, and in and to all rights thereunder.

Seventh. This defendant further answering says that it does not know and is not informed, save by said Bill of Complaint, that the complainant has manufactured and is manufacturing in large quantities sockets employing and containing the invention described and claimed in any by said letters patent.

Eighth. This defendant further answering says that it does not know and is not informed, save by said Bill of Complaint, that the complainant has invested and expended large sums of money, and has been to great trouble and expense in and about said invention for the purpose of introducing the same and making the same profitable to itself and useful to the public.

Ninth. This defendant further answering, denies that the
246 public has generally acknowledged and acquiesced in the alleged rights of complainant with respect to said invention and letters patent aforesaid, and leaves the complainant to make such proof thereof as it may be advised is material and necessary.

Tenth. And this defendant further answering denies that it has manufactured, used or vended to others to be used, any electrical lamp sockets made in accordance with and containing said alleged invention set forth in the aforesaid letters patent; denies that it still continues to make, use or sell electrical lamp sockets embodying or containing said alleged invention set forth in the letters patent aforesaid; denies that it threatens to make electrical lamp sockets embodying the said alleged invention in large or in any quantities; denies that it threatens to supply the market therewith and to sell the same, and further denies that complainant is being deprived or great or any gains and profits through any unlawful act of this defendant, and also denies that the complainant has suffered, or is suffering, any great or irreparable loss or injury through any unlawful act of this defendant, and leaves the complainant to make such proof thereof as it may be advised is material and necessary.

Eleventh. And this defendant further answering, on information and belief, denies that the manufacture, use and sale of any lamp sockets by it, the defendant is in disregard, defiance and infringement of any of the alleged rights of complainant, and leaves the complainant to make such proof thereof as it may be advised is material or necessary.

Twelfth. And this defendant further answering, admits
247 that it has received notice of the alleged infringement charged in the Bill of Complaint, but denies that it has continued, after such notice, to make, use and sell lamp sockets employing and containing the said invention in said letters patent set forth, and leaves the complainant to make such proof thereof as it may be advised is material and necessary.

Thirteenth. And this defendant further answering, on information and belief, alleges that the said letters patent to August Weber, Sr., No. 743,206, are in whole or part void for want of novelty.

Fourteenth. And this defendant further answering, on information and belief, alleges that the said alleged invention set forth in the said letters patent to August Weber, Sr., No. 743,206, and every material and su-stantial part thereof, was known and previously pat-

ented and described in printed publications prior to the alleged invention thereof by the said August Weber, Sr., that is to say:

That the said alleged invention of the said Weber, as set forth in the said letters patent No. 743,206, was previously disclosed and patented in and by the following letters patent of the United States:

George Bailey, June 3, 1862, No. 35,431.
Radolphus D. S. Tyler, Jan. 31, 1893, No. 490,759.
Frederick C. Rockwell, Mar. 4, 1890, No. 422,634.
John T. Dempster, Dec. 30, 1890, No. 443,746.
Samuel Deacon and Merle J. Wightman, May 5, 1890, No. 451,656.
Jesse L. Hinds, Dec. 29, 1891, No. 466,289.
Jacob S. Gibbs, June 21, 1892, No. 447,407.
James E. Lathrop, Mar. 15, 1887, No. 359,265.
248 Herbert C. Wirt, July 27, 1897, No. 587,027.
Charles G. Perkins, June 13, 1899, No. 626,927.
William E. A. M. Oetting, Feb. 6, 1900, No. 642,825.
Howard R. Sargent, Jan. 8, 1901, No. 665,582.
Harvey Hubbell, July 30, 1901, No. 679,316.
Norman Marshall, Aug. 20, 1901, No. 680,932.
Owen E. Kenney, Nov. 4, 1902, No. 712,686.
Walter A. Church, Sept. 1, 1903, No. 738,099.

Fifteenth. And this defendant further answering, on information and belief, alleges that the said letters patent No. 743,206, are invalid and void for the following reasons:

(*a*) Because the said August Weber, Sr., was not the original and first inventor or discoverer of any material or substantial part of the thing patented in and by said letters patent, but before his alleged invention or discovery thereof, the same or substantially the same thing or things had been invented and used by, and were well known to, the following named persons and companies of, and at, the following named places, to wit:

Samuel Deacon, of Lynn, in the State of Massachusetts, at Lynn and elsewhere in said State of Massachusetts.

Merle J. Wightman, of Hartford, in the State of Connecticut, at Hartford and elsewhere in said State of Connecticut.

Jesse L. Hinds, of Syracuse, in the State of New York, at Syracuse and elsewhere in said State of New York.

Jacob S. Gibbs, of Hartford, in the State of Connecticut, at Hartford and elsewhere in said State of Connecticut.

249 Charles G. Perkins, of Hartford, in the State of Connecticut, at Hartford and elsewhere in said State of Connecticut.

Herbert C. Wirt, of Schenectady, in the State of New York, at Schenectady and elsewhere in said State of New York.

Joseph L. Yost, of Toledo, in the State of Ohio, at Toledo and elsewhere in said State of Ohio.

Messrs. Pass & Seymour, of Syracuse, in the State of New York, at Syracuse and elsewhere in said State of New York.

The Yost Electric Manufacturing Company, of Toledo, in the State of Ohio, at Toledo and elsewhere in said State of Ohio.

The Waterbury Manufacturing Company, of Waterbury, in the State of Connecticut, at Waterbury and elsewhere in said State of Connecticut.

The Wirt Manufacturing Company, of Burrage, in the State of Massachusetts, at Burrage and elsewhere in said State of Massachusetts.

(*b*) Because the alleged invention or discovery patented in and by said letters patent No. 743,206, was for more than two years prior to the application for said letters patent put in public use or on sale within the United States by the following named persons and companies of and at the following named places, to wit:

Samuel Deacon, of Lynn, in the State of Massachusetts, at Lynn and elsewhere in said State of Massachusetts.

Merle J. Wightman, of Hartford, in the State of Connecticut, at Hartford and elsewhere in said State of Connecticut.

Jesse L. Hinds, of Syracuse, in the State of New York, at Syracuse and elsewhere in said State of New York.

250 Jacob S. Gibbs, of Hartford, in the State of Connecticut, at Hartford and elsewhere in said State of Connecticut.

Charles C. Perkins, of Hartford, in the State of Connecticut, at Hartford and elsewhere in said State of Connecticut.

Herbert C. Wirt, of Schenectady, in the State of New York, at Schenectady and elsewhere in said State of New York.

Joseph L. Yost, of Toledo, in the State of Ohio, at Toledo and elsewhere in said State of Ohio.

Messrs. Pass & Seymour, of Syracuse, in the State of New York, at Syracuse and elsewhere in said State of New York.

The Yost Electric Manufacturing Company, of Toledo, in the State of Ohio, at Toledo and elsewhere in said State of Ohio.

The Waterbury Manufacturing Company, of Waterbury, in the State of Connecticut, at Waterbury and elsewhere in said State of Connecticut.

The Wirt Manufacturing Company, of Burrage, in the State of Massachusetts, at Burrage and elsewhere in said State of Massachusetts.

Sixteenth. And this defendant further answering on information and belief, says that the aforesaid letters patent to August Weber, Sr., No. 743,206, are void and of no effect because the alleged improvements therein and all substantial and material parts thereof were old and well known in the art prior to the supposed invention or discovery thereof by Weber, and did not and do not involve patentable novelty or invention over the prior art as above recited and as known and practiced by the parties at the places herein

251 named, and that the alleged improvements set forth in the aforesaid patent were well known mechanical expedients and were the result of the exercise of the mere mechanical skill of the ordinary mechanic, and were not the result of the exercise of the inventive faculty.

Therefore, and by reason of the premises, this defendant is informed and advised, and respectfully submits, that the complainant

is not entitled to remedy by way of account, injunction, profits, damages and costs as prayed for in said Bill of Complaint against the defendant, but that on the contrary, it is herein manifestly shown and made to appear that the said Bill of Complaint is unfounded and unjust and contrary to law and good conscience, and that the same should therefore be dismissed. Without this, that any other matter, cause of thing in said Bill of Complaint contained material or necessary to be answered and not herein and hereby well and sufficiently answered, traversed, confessed and avoided or denied, is true, to the knowledge and belief of this defendant.

All which matters and things this defendant is willing to aver, maintain and prove as this honorable court shall direct, and humbly prays to be hence dismissed with its reasonable costs and charges in this behalf most wrongfully sustained.

In witness whereof the said defendant, E. H. Freeman Electric Company, has hereunto affixed its corporate seal and caused the same to be attested by its president.

E. H. FREEMAN ELECTRIC COMPANY,
By E. H. FREEMAN,
President.

[Certificate.]

252 United States District Court, District of New Jersey.

In Equity. No. 743,206.

WEBER ELECTRIC COMPANY, Complainant,

vs.

E. H. FREEMAN ELECTRIC COMPANY, Defendant.

First Amended Answer.

And now comes the above named defendant, E. H. Freeman Electric Company, and by leave of Court first had and obtained, filed this, its amended answer to the Bill of Complaint herein, by erasing paragraph 14 of said answer, and substituting therefor the following paragraph, viz:

Fourteenth. This defendant further answering, on information and belief, alleges that the said alleged invention set forth in the aforesaid letters patent to August Weber, Sr., No. 743,206, and every material and substantial part thereof, was known and previously patented, and described in printed publications, prior to the alleged invention thereof by the said August Weber, Sr., that is to say:

That the said alleged invention of the said Weber, as set forth in the said letters patent No. 743,206, was previously described and published in, and patented in and by, the following letters patent of the United States:

Letters patent to Isaac G. Pollard, No. 320,814, dated June 23, 1885.

253 Letters patent to Samuel Rodman, Jr., No. 414,922, dated Nov. 12, 1889.

Letters patent to Edward R. Knowles, No. 516,819, dated March 20, 1894.

Letters patent to Herbert C. Wirt, No. 587,027, dated July 27, 1897.

Letters patent to Richard J. Ashworth, No. 589,921, dated Sept. 14, 1897.

Letters patent to Charles G. Perkins, No. 626,927, dated June 13, 1899.

Letters patent to William E. A. M. Oetting, No. 642,825, dated Feb. 6, 1900.

Letters patent to Morris Epstein, No. 657,267, dated Sept. 4, 1900.

Letters patent to Norman Marshall, No. 680,932, dated Aug. 20, 1901.

Letters patent to Norman Marshall, No. 690,976, dated Jan. 14, 1902.

Letters patent to Owen E. Kenney, No. 712,685, dated Nov. 4, 1902.

Letters patent to Owen E. Kenney, No. 712,686, dated Nov. 4, 1902.

And also previously described and published in, and patented in and by, the following letters patent issued by countries foreign to the United States:

German patent to Mix & Genest, No. 106,898, dated April 9, 1899.

British patent to The Edison & Swan United Electric Light Company, Ltd., and Charles Faraday Proctor, No. 6,781, dated April 2, 1895.

British patent to Charles Gover, and Charles Faraday Proctor, No. 11,714 dated May 11, 1897.

British patent to Kenny, Holder for Electric Glow Lamps, No. 10,429, dated May 15, 1896.

D. P. WOLHAUPTER,
Solicitor for Defendant.

254 In the United States District Court for the District of New Jersey.

In Equity. No. 743,206.

WEBER ELECTRIC COMPANY, Complainant,

vs.

E. H. FREEMAN ELECTRIC COMPANY, Defendant.

Second Amendment to Answer (March 1, 1915).

And now comes the above named defendant, the E. H. Freeman Electric Company, and by leave of Court first had and obtained, files

his, its amendment to answer to the Bill of Complainant herein by changing the number of paragraph 17 to 19, and by substituting for the present paragraphs 14 and 15 thereof the following paragraphs, viz:

Fourteenth. And this defendant further answering, on information and belief, alleges that the said alleged invention set forth in the aforesaid letters patent to August Weber, Sr., No. 743,206, and every material and substantial part thereof, was known and previously patented, and was described and illustrated in printed publications prior to the alleged invention thereof by the said August Weber, Sr., and more than two years prior to his application for said letters patent, and particularly in the following patents and publications:

55 *Patents of the United States.*

To Isaac G. Pollard, No. 320,814, dated, granted, patented and published June 23, 1885.

To Samuel Rodman, Jr., No. 414,922, dated, granted, patented and published Nov. 12, 1889.

To Edward R. Knowles No. 516,819, dated, granted, patented and published March 20, 1894.

To Reuben B. Benjamin, No. 575,322, dated, granted, patented and published January 19, 1897.

To Herbert C. Wirt., No. 587,027, dated, granted, patented and published July 27, 1897.

To Richard J. Ashworth, No. 589,921, dated, granted, patented and published September 14, 1897.

To Charles G. Perkins, No. 626,927, dated, granted, patented and published June 13, 1899.

To William E. A. M. Oetting, No. 642,825, dated, granted, patented and published Feb. 6, 1900.

To Morris Epstein, No. 657,267, dated, granted, patented and published Sept. 4, 1900.

To Norman Marshall, No. 680,932, dated, granted, patented and published August 20, 1901.

To Norman Marshall, No. 690,976, dated, granted, patented and published Jan. 14, 1902.

To Owen E. Kenney, No. 712,685, dated, granted, patented and published November 4, 1902.

To Owen E. Kenney, No. 712,686, dated, granted, patented and published November 4, 1902.

German patent to Mix & Genest, No. 106,808, dated April 9, 1899, granted, patented and published November 23, 1899.

British patent to The Edison & Swan United Electric Light Company, Ltd., and Charles Faraday Proctor, No. 6,781, dated
56 April 2, 1895, granted, patented and published May 4, 1895.

British patent to Charles Gover, and Charles Faraday Proctor, No. 11,714, dated May 11, 1897, granted, patented and published December 4, 1897.

British patent to Kenny, Holder for Electric Glow Lamps, No. 10,429, dated May 15, 1896, granted, patented and published November 21, 1896.

And also previously described and illustrated in the following printed publications:

Catalogues of the General Electric Company printed, published and circulated in the United States in the year 1897 and succeeding years.

Fifteenth. It is denied that the said August Weber, Sr., was the first and original inventor or discoverer of the alleged invention or any material or substantial part of the thing patented in and by his said letters patent, because it, or all material and substantial parts thereof, before his alleged invention or discovery thereof, and more than two years prior to his application for said letters patent, was known to and in public use and sale by the following named persons and companies in this country, and at the following named places, to wit:

Reuben B. Benjamin, of Chicago, Illinois, at Chicago, Illinois, and elsewhere, said Benjamin now residing at said Chicago.

General Electric Co., Schenectady, New York, at Schenectady, New York, and elsewhere throughout the United States.

Owen Kenney, of Toledo, Ohio, at Toledo, Ohio, and elsewhere throughout the United States.

The Yost-Miller Co., of Toledo, Ohio, afterwards The Yost
257 Electric Mfg. Co., at Toledo, Ohio, and elsewhere throughout the United States.

Charles C. Perkins, of Hartford, Conn., at Hartford, Conn., and elsewhere throughout the United States.

William H. Scott, of Chicago, Illinois, at Chicago, Illinois, and elsewhere, said Scott now residing at said Chicago.

The Union Consolidated Elevated Railroad Co., of Chicago, Ill., at Chicago, Illinois, and now operated by The Metropolitan West Side Elevated Railway Co. and The Northwestern Elevated Railroad Co.

Seventeenth. This defendant further avers that the electrical incandescent lamp sockets upon which the present charge of infringement is based contain and embody the invention set forth in the U. S. Letters patent of Edgar H. Freeman, No. 927,344, dated July 6, 1909, and reissue No. 13,247, dated May 10, 1911, and accordingly the electrical incandescent lamp sockets upon which the present charge of infringement is based were manufactured and sold by this defendant in accordance with, and under the protection of the said original and reissued letters patent of Edgar H. Freeman, which letters patent have been and are under the exclusive control of the defendant.

Eighteenth. The defendant further avers that the patent of Reuben B. Benjamin, No. 575,322, dated Jan. 19, 1897, set up as one of the defenses herein was assigned by the inventor and patentee to the General Electric Co., of Schenectady, New York, under date

of December 22, 1897; and that under date of December 29, 1897, the deed of assignment therefor was duly recorded in the
258 transfers of patents of the United States Patent Office, by virtue of which the General Electric Company became, and is, the sole owner of the entire right, title and interest in and to the said letters patent, and in and to the invention described and claimed therein; and furthermore, that the General Electric Company, since the date of the said assignment, beginning prior to the alleged invention of said Weber, and more than two years prior to his application for patent, has extensively manufactured and sold in the United States incandescent lamp sockets embodying the invention of the said Benjamin patent, which electrical lamp sockets have been catalogued and sold by the said General Electric Company under Catalogue No. 50,702.

D. P. WOLHAUPTER,
Solicitor and Counsel for Defendant.

Dated March 1, 1915.

259 United States District Court, District of New Jersey.

In Equity. No. 743,206.

WEBER ELECTRIC COMPANY, Plaintiff,

vs.

E. H. FREEMAN ELECTRIC COMPANY, Defendant.

Stipulation.

It is stipulated in behalf of the respective parties as follows:

First. Printed copies of specifications and drawings of United States and foreign patents offered in evidence shall be taken as prima facie proof, subject to correction, of the grant and issue of patents bearing such specifications and drawings on the dates appearing therein and the date of application appearing thereon shall also be taken as prima facie correct: the date of grant, issue and publication of United States patents to be taken as the date thereof appearing on the specifications; the date of grant, issue and publication of British patents to be taken as the date of acceptance or sealing appearing on such specifications, and the date of grant, issue and publication of German patents to be taken as the date appearing on such specifications under the word "Ausgegeben."

260 Second. That, subject to correction, it is admitted that the applications, as filed, for the two Kenney patents recited in the answer, disclose by their specifications and drawings all that is disclosed in the said Kenney patents as issued, so far as material herein.

FRANK C. CURTIS,
For Plaintiff.

February 15, 1915.

D. P. WOLHAUPTER,
For Defendant

261 In the United States District Court, District of New Jersey.

In Equity.

WEBER ELECTRIC COMPANY, Complainant,

vs.

E. H. FREEMAN ELECTRIC COMPANY, Defendant.

On Patent No. 743,206.

Notice of Taking Testimony.

Washington, D. C., Feb. 9/10.

Frank C. Curtis,
Solicitor for Complainant,
Troy, N. Y.

DEAR SIR:

Please take notice that on the 14th day of February, 1910, at 10 o'clock in the forenoon, I shall, at my office, Washington Loan & Trust Building, Washington, D. C., begin to examine witnesses and introduce proofs on behalf of the Defendant in the above entitled cause, under the 67th Rule in Equity as amended.

The Examination will be conducted before Charles E. Riordon, a Notary Public in and for the District of Columbia acting as
262 Special Examiner, and will be continued from day to day till completed. You are invited to attend and cross-examine.

Respectfully,

D. P. WOLHAUPTER,
Attorney for Defendant.

Frank C. Curtis, *Defendant's* Solicitor.

Due and timely service of a true copy of the above hereby acknowledged this 10th day of February, 1910.

FRANK C. CURTIS,
Solicitor for Complainant.

63 United States Circuit Court, District of New Jersey.

In Equity.

WEBER ELECTRIC COMPANY, Complainant,

vs.

E. H. FREEMAN ELECTRIC COMPANY, Defendant.

On Patent No. 743,206.

Washington, D. C., Feb. 14, 1919—10 A. M.

Testimony on behalf of the defendant taken under the 67th Rule Equity as amended at the offices of David P. Wolhaupter, Wash-gton Loan & Trust Bldg., Washington, D. C., commencing on the 4th day of February, 1919, at 10 A. M., before Charles E. Riordon, Notary Public, in and for the District of Columbia, before whom it stipulated that testimony may be so taken with the same force and fect as though said Charles E. Riordon had been duly appointed a pecial Examiner for that purpose, and an order to this effect may e entered without notice, said testimony being taken pursuant to e annexed notice.

Present: David P. Wolhaupter, Esq., counsel for defendant; and Frank C. Curtis, Esq., counsel for complainant.

64 Counsel for defendant offers in evidence a certified copy of the file wrapper and contents in the matter of the Letters atent of August Weber, Sr., No. 743,206, granted November 3, 903, for improvement in Incandescent Electric Lamp Sockets, and equests the Examiner to receive and mark the same "Defendant's xhibit, Certified Copy Application Record of Patent in Suit."

Counsel for defendant offers in evidence a certified copy of the etters Patent of Edgar H. Freeman, No. 927,344, dated July 6, 909, for improvement in Adjustable Casings for Lamp Sockets" nd requests the Examiner to receive and mark the same "Defend-nt's Exhibit, Freeman Patent No. 927,344."

Counsel for defendant offers for identification a copy of the text nd drawings of the German patent to Mix and Genest, No. 106,898, ated April 9, 1899, with English translation of text attached thereto, nd requests the Examiner to mark the same "Defendant's Exhibit, opy and English Translation German Patent 106,898."

65 ARTHUR S. BROWNE, a witness called by and on behalf of the defendant, being first duly sworn, deposes and says, in nswer to interrogatories propounded to him by counsel:

By Mr. Wolhaupter:

Question 1. Please state your name, age, residence and occupation?

Answer. Arthur S. Browne; 49; Chevy Chase, Maryland; patent olicitor and expert.

Q. 2. Please state what training and experience qualify you t testify as an expert in patent cases involving questions concernin the identity or non-identity of mechanical structures, and also i regard to the construction of letters patent and the claims thereof a applied to such structures?

A. I was graduated from Dartmouth College, in 1881, and in th following year I entered my present profession in which I have sinc been actively and continuously engaged. I have prepared and pros cuted many hundreds of applications for patents; and I have mad numerous investigations for the purpose of giving opinions concern ing the novelty of inventions, and the scope, validity and infringe ment of patents. I have testified as an expert witness in more tha two hundred and fifty patent suits in the United States courts. I connection with my professional work I have had frequent occasio to visit workshops and factories for practical observation and exper ence. In connection with my work I have had constantly to study patents and to compare mechanical structures with each other an with the subjects matter of numerous patents.

Q. 3. Have you read the testimony so far taken on behalf of th complainant in this cause?

266 A. Yes.

Q. 4. Have you read and do you understand the patent i suit, viz., the patent to August Weber, Sr., No. 743,206 dated N vember 3, 1903?

A. Yes.

Q. 5. Have you examined the Patent Office file wrapper and con tents in the matter of the said Weber patent in suit?

A. Yes.

Q. 6. Have you examined and do you understand the several ex hibits of defendant's sockets offered in evidence by complainant?

A. Yes.

Q. 7. Have you examined and do you understand the prior ar patents bearing on the question of the novelty of the invention dis closed in the Weber patent in suit?

A. Yes.

Q. 8. Have you examined and do you understand the patent t Edgar H. Freeman, No. 927,314, dated July 6, 1909?

A. Yes.

Q. 9. In the light of what you state you have examined I would ask you to kindly compare the defendant's structure, as exemplified by the exhibits marked "Complainant's Exhibit, Defendant's Key Socket" and "Complainant's Exhibit Defendant's Keyless Socket," with the Weber Patent in suit, and particularly with the first four claims of that patent, and as the result of such comparison, state what you find to be novel, if anything, in the said claims that is present or not present in the said defendant's sockets?

A. My conclusions are as follows:

(1) The subject matter of claims 2 and 3 of the Weber patent in suit No. 743,206, consists in a specific construction to prevent the in sulating base from turning within the surrounding case. This sub

ject matter is wholly lacking in novelty in view of the German
267 patent to Mix & Genest, No. 106,898, April 9, 1899, and of the U. S. Patent of Knowles, No. 516,819, March 20, 1894.

(2) The subject matter of claim 4 of the Weber patent in suit relates to a distinct specific construction intended to readily and detachably unite a sheet metal cap with a sheet metal sleeve. If this subject matter possesses any novelty in view of the prior art, such novelty is of a most limited character and is not present in either of defendant's sockets. Indeed, the lack of the subject matter of claim 4 of the Weber patent in the defendant's sockets is apparent upon the face of the claim, since it specifies detailed features which are not present in defendant's sockets. The importance of these detail differences recited in the claim is particularly conspicuous when the prior art is taken into consideration. In fact, this claim was restricted by amendment in the Patent Office after rejection upon prior patents so as to include specific features not present in defendant's sockets. As showing the lack of any substantial novelty in the subject matter of claim 4 of the Weber patent I shall refer to the following prior patents:

Pollard, No. 320,814, June 23, 1885.
Rodman, No. 414,922, Nov. 12, 1889.
Ashworh, No. 589,921, Sept. 14, 1897.
Oetting, No. 642,825, Feb. 6, 1900.
Epstein, No. 657,267, Sept. 4, 1900.
Kenney, No. 712,685, Nov. 4, 1902.
Kenney, No. 712,686, Nov. 4, 1902.

(3) Claim 1 of the Weber patent in suit attempts to include at once the two distinct and separate features to which claims 2 and 3 on the one hand and claim 4 on the other hand are specifically directed. These two distinct features have no relation to each other, and subserve no common purpose. Indeed, the electric lamp
268 socket made by the defendant, "Complainant's Exhibit, Defendant's Key Socket," concededly does not contain the feature of holding the insulating base and enclosing case against relative rotation and hence lacks the subject matter of any one of claims 1, 2 and 3, while asserted to possess the subject matter of claim 4. There is no unity of purpose between these two features. They are wholly independent and unrelated characteristics which may be used separately or may be aggregated in the same structure as in the keyless socket shown in Fig. 3 of the Weber patent in suit. Accordingly, the subject matter of claim 1 is for an aggregation as distinguished from a combination wherein the several features mutually contribute to a result. Moreover, there is no substantial novelty either in aggregating such distinct features in the same socket as shown, for example, by the prior U. S. patents of:

Wirt, 587,027, July 27, 1897.
Perkins, 626,927, June 13, 1899.
Marshall, 680,932, Aug. 20, 1901.
Marshall, 690,976, Jan. 14, 1902.

Moreover, claim 1, recites no substantial novelty which is present in defendant's sockets as shown by the various prior patents to which I have already referred.

In explaining my reasons for reaching the foregoing conclusions I will consider the several propositions just stated under appropriate headings.

Claims 2 and 3 of the Weber Patent.

The point of these two claims is that the enclosing casing which comprises a sheet metal sleeve has portions thereof bent inwardly or "introverted" so as to form inwardly projecting tongues which enter recesses in the enclosed insulating base, thereby preventing the base
rotating relatively to the casing. This was not new with
269 Weber, as shown by German patent of Mix & Genest, No. 105,898, and by the U. S. Patent of Knowles, No. 516,819. Before, however, referring to these two prior patents I wish to call attention to the fact that the Weber patent itself states that the supposed improvemens are applied to a well known type of electric lamp socket. The paragraph at lines 51 to 73 of the Weber specification describes the features of the socket which are numbered 1 to 11 inclusive, and ends with the expression "all in the usual well known manner." It is thus conceded that these illustrated features are old.

In illustration of what is conceded to be well known I refer to the U. S. Patent of

Perkins, No. 626,927, June 13, 1899.

Perkins shows an incandescent lamp socket having a base of insulating material consisting of two insulating blocks 11 and 12 (Figs. 2, and page 1, lines 98 and 100) upon which is fixedly mounted a screw threaded socket or bushing 21 (Fig. 2, and page 2, line 17), which constitutes a support for an incandescent lamp, the screw threaded plug of which is adapted to screw into such bushing or socket. The insulating base and lamp supporting socket of Perkins are enclosed within a case comprising in part a sheet metal sleeve or shell 1. The upper part of this shell is covered by a cap 3, and the cap and shell are secured together by means of fastening screws 7, 7, as best shown in Figs. 1 and 4. The inner ends of these fastening screws 7, 7, extend into recesses in the insulating block 12 (see Figs. 4 and 9) and hence would suffice to prevent the insulating block from turning within the enclosing casing if necessary. Perkins, however, shows a key socket wherein the shank of the key 39 passes through a slot in the casing 1 (see Fig. 11), so that the
key itself prevents relative rotation between the insulating
270 base and the enclosing casing. It is entirely obvious, however, that if the Perkins key should be omitted so as to render the socket a keyless one, the insulating base would be prevented from rotation within the casing by reason of the screws 7, 7, entering the recesses in the insulating block 12.

Wirt, No. 587,027, July 27, 1897.

This patent shows an incandescent lamp socket wherein there is an insulating base E, enclosing casing or shell B and a cap D. The cap and shell are secured together by means of screws C extending through the rim of the cap through "bayonet" slots A in the shell or casing B and into recesses F in the insulating base. Slots of the character shown in this Wirt patent are commonly called "bayonet" slots because an early and well known use of such slots was in fastening a bayonet to the muzzle of a gun. Such a slot comprises two portions extending at right angles to each other and one of these portions is open at the edge of the shell so as to permit the passage of the screw. Wirt shows a key socket the shank G^1 of the key passing through a slot G in the shell or casing. Consequently, the key itself prevents relative rotation between the insulating base and the enclosing case; but, it is entirely obvious that if the Wirt construction were to be used with a keyless socket the screws C entering the base recesses F would prevent rotation of the base within the casing.

Marshall, No. 680,932, August 20, 1901.

This patent shows a keyless incandescent lamp socket having an insulating base C, an enclosing sheet metal sleeve, shell or casing A, and a cap B. The cap B has bayonet slots *b* which co-operate with the shanks of screws *a*, carried by the enclosing case A, for
271 fastening the cap and case together. These screws *a* screw into studs *a'* (see Fig. 6) which are secured to the shell or case A and project inwardly. These inwardly projecting studs enter grooves or recesses *c*, located in the periphery of the insulating base C for the purpose of preventing relative rotation between the enclosing case or shell and the insulating base, as described in the Marshall specification, which says:

"The insulating base C is provided with grooves *c*, extending longitudinally thereof through which the inwardly-projecting parts of the studs pass in assembling the parts of the socket and which co-operate with said studs to prevent the shell and insulating-body turning with relation to each other when the parts are assembled." (Page 2, lines 8-15.)

Marshall, No. 690,976, Jan. 14, 1902. This patent shows both keyless and key sockets for incandescent lamps. Fig. 10 is described as "showing a keyless socket" (page 1, line 55). In Fig. 5 are shown a cap and casing adapted to be secured together in a manner similar to that of the Marshall patent 680,932 just mentioned. The specification describes the illustrated screws as extending into recesses in the insulating base or body portion for the purpose of holding the shell and body from turning upon each other. I quote from the Marshall specification as follows:

"In Fig. 5 is shown my novel construction of shell. The nut or eyelet 5 is expanded by an irregular punch into a similar hole in the

edge of the shell. The nut or eyelet is then threaded to receive the locking screw, upon which fits the bayonet-slot, similar to devices now in use (not shown in the drawings) in the edge of the
272 cap M. These screws S' S^2 when gripping the cap extend into the recess in the body portion Q. Q', holding the shell and body from turning upon each other." (Page 2, lines 73-83.)

In view of this state of the art, it is obvious that everything recited in claims 2 and 3 of the Weber patent in suit is old with the single exception that each of these claims requires that the sheet metal sleeve constituting the enclosing case shall have "a portion of its wall introverted" to occupy the recess in the case for the purpose of preventing rotation between the sleeve and the base. If, for example, in these claims "a screw" were to be substituted for "a portion of its wall introverted" each of them would apply directly to the keyless socket of the Marshall patent No. 690,976. To facilitate comparison I here quote claims 2 and 3, italicizing the only words which do not apply to the Marshall patent and inserting in parenthesis "a screw," to make the claims applicable to Marshall:

"2. In a device of the class described, the combination with a base of insulating material having a peripheral recess; and an incandescent lamp support mounted thereon; of an enclosing case therefor comprising in part a sheet metal sleeve having *a portion of its wall introverted* (a screw) to occupy said base-recess, substantially as described."

"3. In a device of the class described, the combination with a base of insulating material having a peripheral recess; and a screw socket fixedly mounted thereon; of an inclosing case therefor comprising in part a sheet metal sleeve having *a portion of its wall introverted* (a screw) to occupy said base recess and prevent a relative ro-
273 tative movement between said sleeve, base and socket, substantially as described."

Except for the difference noted these two claims apply exactly to the Marshall patent No. 690,976. Marshall has a base of insulating material with a peripheral recess, as shown at Q. Q'. and as described in the extract from his specification just copied. Marshall has a screw socket D (Figs. 7 and 10) fixedly secured to the insulating base and constituting an incandescent lamp support, as described at lines 61 to 67, page 1 of the Marshall specification. Marshall has an enclosing case shown in Fig. 5 which comprises a sheet metal sleeve to surround the insulating base. And Marshall's sleeve has a screw which enters the peripheral recess in the base to prevent a relative rotative movement between the sleeve and the base and its socket.

The only proposition, therefore, presented for discussion is as to the novelty of providing the sleeve with an "introverted" portion of its wall instead of the screw used by Marshall. Weber's "introverted" portion is simply a tongue 15 "formed by slitting and bending inwardly" a portion "of the sleeve wall" as described at lines 17 to 19, page 2 of the Weber specification. In other words, Weber has a tongue which is an integral part of the shell instead of a separate screw.

Now this difference between Weber and Marshall was wholly lacking in novelty because shown in the German patent of

Mix & Genest, No. 106,898, April 9, 1899 (issued November 23, 1899). This German patent shows an electric lamp socket having an insulating base illustrated in detail in Figs. 2 to 6. This base has at its periphery two recesses *p* at diametrically opposite sides, as well shown in Figs. 4 and 5. This insulating base is enclosed by the enclosing case or shell *e* shown in Fig. 1. This shell or
274 case *e* has inwardly bent or "introverted" projections or "noses" *a* which fit the peripheral recesses *p* of the insulating base and thereby prevent relative turning between the case and the base. I quote from the translation of this German patent ("Defendant's Exhibit, Copy and English Translation German Patent 106,898") as follows:

"By screwing on the overthrow ring *o* on the lid *d*, the latter is held to the casing *e* and the stone *a*. In order to secure the latter against turning, it is provided with two oppositely placed grooves *p*, in which there take hold projections (noses) *c* of the lid *d*, as well as noses *r* of the casing *e*."

The German patent thus shows to be old and the only feature of difference between Weber and Marshall, namely, the internally projecting integral portion of the enclosing case to interlock with the peripheral groove in the insulating base. Hence, this feature is lacking in any novelty.

In other respects, the German patent shows the feature for preventing rotation between the base and case applied to one old form of socket, whereas Weber shows the same feature applied to another old form of socket, conceded to be old and well known in the Weber specification (page 1, lines 72, 73 and 78) and shown to be old in the patents to which I have referred. Manifestly, to use the introverted integral portions of the German casing for stopping the rotation of the insulating base of another old form of socket is destitute of novelty.

Knowles, No. 516,819, March 20, 1894. This patent also shows that it was old to provide the enclosing sleeve or casing with integral introverted portions for the purpose of preventing the rotation of an insulating base. The Knowles patent is for improvements in
275 "keyless sockets" for incandescent electric lamps (lines 6 and 19) and the interior casing or shell B is provided with integral introverted projections *b'* (Figs. 2 and 5) which prevent the relative rotation of the enclosed insulating base C. In this connection the Knowles specification says:

"At diametrically opposite points in the upper edge of the shell are formed pairs of indentations *b'*, to constitute internal guides, between which is fitted a removable block C, of insulating material, preferably rectangular, as shown." (Lines 31-36.)

Knowles shows this plan for preventing rotation applied to one old style socket, while Weber shows the same plan applied to another old form of socket for the same purpose.

Both Knowles and the German patent thus show that it was old to prevent the rotation of an insulating base by forming the external casing or shell with integral inturned or introverted portions which interlock with the insulating base to prevent its rotation. This being old, it was not novel to provide the same expedient to another old form of socket. Or, to put it another way, Marshall differs from Weber simply in that he employs detachable screws to enter recesses in the insulating base to prevent its rotation instead of integral inbent portions of the casing. But, such integral inbent portions being old for the same purpose, it was lacking in any substantial novelty to substitute this old device for the equivalent and old screws provided by Marshall. Accordingly, there was no novelty in the subject matter of claims 2 and 3 of the Weber patent in suit.

The subject matter of these claims is concededly not present in defendant's key socket.

276 Specifically, the inturned tongues of defendant's keyless socket are different from the inbent tongues of Weber. Each of Weber's tongues 15 is separated from the body of the case at the top and the two side edges and is joined to the case only at its bottom. In defendant's keyless socket each inbent tongue is connected at both top and bottom with the case or shell, and, in this respect, is closer to the German patent than to the Weber patent. Manifestly, any interpretation of the expression "having a portion of its wall introverted" used in claims 2 and 3 which makes it applicable to defendant's keyless socket makes it equally applicable to the sockets of the German patent and of the Knowles patent No. 516,819. There is, therefore, no novelty in the subject matter of claims 2 and 3 of the Weber patent in suit which is present in either of defendant's sockets.

Claim 4 of the Weber Patent.

At the outset, I direct attention to the circumstance that claim 4 of the Weber patent in suit does not call for an incandescent electric lamp socket, nor does the claim recite any characteristic which is peculiar to an electric socket. On the other hand, this claim in its language is commensurate with the statement made in the patent which I have italicized in the following quotation:

"My invention *is applicable to various telescopically connecting members*, but is especially adapted for use in the telescopically connecting cap and sleeve members of incandescent-electric-lamp sockets, and I have illustrated in the drawings its use in such connection." (Page 1, lines 35-41.)

277 That is to say, "a device of the class described," as called for by claim 4, may be any device having telescopically connecting members, and an incandescent electric lamp socket is merely one illustration of such a device. This is important in connection with a number of patents to which I have heretofore referred in connection with claim 4, and which do not show electric lamp sockets.

I next call attention to the facts that claim 4 recites certain details of construction which are not present in either one of defendant's sockets, and that one at least of said differences was introduced into the claim by amendment for the purpose of avoiding prior patents cited by the Patent Office.

Claim 4 is directed to the specific means employed to connect the cap and shell, and I call particular attention to the characteristics of this means which are not present in defendant's sockets. Weber shows two slightly different constructions in his drawings.

In the key socket shown in Figs. 1 and 2 the cap 2 is provided with two recesses 13 at diametrically opposite sides. The sleeve 1 is provided with two projections 14 at diametrically opposite sides. Each projection is formed by cutting a transverse slit in the wall of the shell and by displacing the wall on one side of the slit so as to form a projection extending outwardly and beveled or inclined and terminating in an abrupt edge at the slit.

In the keyless socket shown in Fig. 3 there is a reversal, since the slits and projections are on the cap and the corresponding and co-operating recesses are in the casing or sleeve.

This specific construction is identified in claim 4 which recites "one of said members being provided with a recess" namely, the recess 13 of Fig. 1, or the recess 21 of Fig. 3, "and the other having a correspondingly located transverse slit and the wall on one side thereof displaced to form a projection beveled or inclined towards said recessed member and terminating abruptly at said slit,"
278 this being the projection 14 of Figs. 1 and 2 or the projection 20, of Fig. 3.

No such construction exists in either of defendant's sockets, and I fail to find in Mr. Mosher's deposition any explanation of the presence of these features in the defendant's sockets.

To aid in pointing out the differences in this respect between defendant's sockets and the Weber construction I will refer to the Freeman patent No. 927,344, July 6, 1909, which shows the devices for connecting the cap and shell which are employed in both forms of defendant's sockets. They will enable me to unmistakably explain exactly what I understand the facts to be.

Adjourned until to-morrow, Tuesday, February 15th, 1910, at 10 o'clock A. M.

Washington, D. C., Feb. 15, 1910—10 a. m.

Met pursuant to adjournment.

Parties present as before.

(The witness continues his answer to Q. 9:)

Each of defendant's sockets, as illustrated in the Freeman patent No. 927,344, has a casing or shell 10, with three bayonet slots 14, at its top edge, and a longitudinal slit 11, which in the key socket affords a passage for the key, and in the keyless socket this slot is narrower and permits the edge of the casing to be squeezed inwardly. In these respects the defendant's casing follows the prior art, as shown, for example, by the Wirt patent No. 587,027 (already men-

tioned), the casing of which has similar bayonet and key slots. Defendant's cap 17 has four inwardly projecting studs or lugs 19, each of which is a separate piece of metal riveted to the cap.
279 Each of these studs or lugs is circular in outline and has a flat inner face perpendicular to a radius of the cap and with square edges. Three of these four studs co-operate with the three bayonet slots of the casing or shell in just the same way as the screws C of the Wirt patent co-operate with the bayonet slots A of the casing; that is to say when the cap is slipped over the casing, three of these studs enter the vertical mouths of the bayonet slots and when the studs reach the bottoms of the slots, a partial turn of the casing brings the studs into the horizontal portions of the respective bayonet slots, so that the casing and cap cannot then be separated by a longitudinal movement.

The fourth stud 19 of defendant's cap co-operates with a special locking opening 15 of the casing which is in the neighborhood of the vertical slot 11. The portion 16 of the casing which is between the opening 15 and the slot 11 is bent inward. When the cap and casing are to be fastened together and are in such a position that three of the studs 19 register with the open mouths of the three bayonet slots 14, the fourth stud 19 is in line with the bent in wall 16 of the casing. Accordingly when the casing and cap are moved toward each other to cause three of the studs 19 to enter the three bayonet slots the fourth stud 19 rides upon the inbent wall 16 and presses it inwardly. Then, when the casing is turned to lock the three studs in the three bayonet slots, the hole 15 is brought into register with the fourth stud 19, and the wall of the casing springs outwardly, thus engaging hole 15 with the fourth stud 19, thereby preventing any relative rotary motion between the cap and casing. To detach the cap and casing, the wall of the casing where the hole 15 is located is squeezed inwardly to free the hole from the fourth stud 19, the casing is then rotated to disengage the overhanging portions of the bayonet slots from the three studs 19 and the
280 casing can then be pulled directly away from the cap.

It will be noted that both in locking and unlocking it is necessary to employ both a straight longitudinal movement between the cap and casing, and in addition a relative rotary movement between them. In this respect defendant's sockets differ from the socket of the Weber patent wherein no rotary movement between the cap and casing is necessary either in locking or unlocking. In the Weber socket both locking and unlocking are effected by a straight longitudinal or "simple telescopic" movement.

Now it is impossible to find in the defendant's socket the locking means defined in claim 4 of the Weber patent. This claim requires that "one of said members" namely, the cap or the casing, should be "provided with a recess." This is true of the defendant's socket, wherein the casing 10 has a recess 15, as exemplified in the Freeman patent. But, claim 4 further requires that "the other" member should have "a correspondingly located transverse slit and the wall on one side thereof displayed to form a projection beveled or inclined towards said recessed member and terminating abruptly at said slit." Accordingly, if this is to be found in the defendant's

socket, defendant's cap (which is the "other" member) must be provided with a transverse slit, a projection beveled or inclined toward the casing with its recess 15, and said projection must terminate abruptly at the slit. Such language is wholly unintelligible when applied to defendant's cap. The contrivance of defendant's cap which co-operates with the recess 15 in the casing is the fourth stud 19. This stud is a separate piece of metal riveted to the cap. Possibly, through some stretch of the imagination, the hole through which the stud passes and in which it is riveted might be called a "slit" but it is not a "transverse" slit called for by claim 4. Moreover, if this hole should be called a "transverse
281 slit" claim 4 requires that "the wall on one side thereof" should be "displaced to form a projection." But this is not true of defendant's cap. No projection is formed by displacing a portion of the wall of the cap. On the other hand, the projection is due to a separate piece of metal in the form of a stud riveted to the cap. Again, the claim requires that the projection formed by displacing the wall on one side of the transverse-slit should be "beveled or inclined toward said recessed member" (namely, the casing), and this is not true of defendant's fourth stud, which is not beveled or inclined at all, but has a flat face parallel with the outer surface of the casing. Again, claim 4 requires this projection formed by displacing the wall at one side of the transverse slit should terminate "abruptly at said slit," and nothing of the sort is present in the defendant's sockets.

Accordingly, defendant's sockets do not have the subject matter of claim 4 of the Weber patent in suit, since they lack the features called for by the claim.

Moreover, the proceedings in the Patent Office which resulted in the grant of the Weber patent in suit show that the claim was amended to avoid prior patents cited by the Patent Office, and that a portion of the limitations thus introduced by amendment is not present in defendant's sockets.

Claim 4 of the Weber patent is the same as claim 7 of the application as filed in the Patent Office except for certain amendments to which I will call attention. Original claim 7 was rejected by the official letter of January 12, 1903, which said:

"Claims 1, 2, 4 and 7 are rejected on the patent to Oetting, 642,825, Feb. 6, 1900, or to Kenney, 712,686, Nov. 4, 1902, Sockets and Keys."

By the succeeding amendment, dated March 27, 1903, and filed March 30, 1903, rejected claims 1, 2 and 4 were cancelled,
282 and claim 7 was amended and became claim 4 of the patent. To show just wherein the claim was amended, I here copy claim 4 of the patent, italicizing the words which were inserted by this amendment. If the claim is read omitting the italicized words it will be claim 7 as filed. The claim so italicized is as follows:

"4. In a device of the class described, and in combination a pair of members comprising a sheet-metal sleeve having a slotted end, and a sheet-metal cap adapted to telescopically receive the slotted end

of said sleeve, one of said members being provided with a recess, and the other having a correspondingly located *transverse slit and the wall on one side thereof displaced to form a* projection beveled or inclined toward said recessed member and terminating abruptly *at said slit*, whereby said members are adapted to automatically interlock with a snap-action when telescopically applied to each other, and to be released by *manual* compression of said slotted sleeve, substantially as described."

Originally, all that the claim required was that the cap or the sleeve (as the case might be) should have a "projection beveled or inclined toward said recessed member and terminating abruptly." Except for the circumstance that the defendant's projection is not "beveled or inclined" this original statement applies thereto. But this original statement was not allowed to stand. On the contrary, the claim was amended so as to require that the projection should be formed by displacing the wall on one side of the transverse slit in the member carrying the projection, and that the projection should terminate abruptly "at said slit." These characteristics introduced by amendment are not present in defendant's sockets.

283 Moreover, the pertinence of this amendment to distinguish from defendant's sockets is emphasized since these same amendments were designed to distinguish from the prior patents cited by the Patent Office, one of which closely resembles the defendant's sockets with respect to the characteristic of the interlocking projection. One of the patents cited by the Patent Office was that of

Kenney, No. 712,686, Nov. 4, 1902. Kenney like defendant has bayonet slots M, in his casing B, with which co-operate inwardly projecting lugs or studs N, carried by the cap C. In addition, Kenney has two holes E for locking purposes with which co-operate radial projections G on the cap. Kenney's lugs or studs M are secured by riveting (page 2, line 37), while his studs G are formed by dies forcing the metal of the cap inwardly (page 2, line 34). The resemblance between Kenney and the defendant's sockets is obvious. Moreover, Kenney shows his interlocking projections G as beveled on their sides. Consequently, the language of Weber's original claim 7 so far as it specified the structure applied to Kenney. In Kenney "one of said members" (the casing B) is "provided with a recess" E and the "other" (cap C) has "a correspondingly located projection (G) beveled or inclined towards said recessed member and terminating abruptly," it being the fact that Kenney's projection is beveled or inclined on its side eges and terminates abruptly at its ends. Accordingly, the language of the original claim applied to Kenney. Accordingly, the claim was amended to distinguish from Kenney. Kenney's projection G is formed by bending in the metal without slitting it. Hence, to distinguish from Kenney the claim was amended to specify that the member carrying the projection has a "transverse slit and the wall on one side thereof (is) displaced to form" the projection; and that the abrupt termination of said

284 projection is "at said slit." That is to say, for the purpose of distinguishing from Kenney, recitations were introduced to

define characteristics not possessed by Kenney, and which equally are not possessed by the defendant's sockets.

Accordingly, defendant's sockets do not have the subject matter of claim 4 of the Weber patent in suit, because that claim was amended to avoid prior patents upon which it was rejected by the Patent Office to include specific details of construction not present in the cited patents and equally not present in defendant's sockets.

Moreover, even as amended and limited to distinguish from the prior patents cited by the Patent Office the subject matter of claim 4 does not possess any substantial novelty.

The difference between the socket of claim 4 and that of the Kenney patent No. 712,686, resides in the circumstance that Weber has a tongue or projection formed by slitting the metal and bending out the tongue, with the result that the cap and shell can be nested together by a straight longitudinal or "simple telescopic" movement, and that the projection will then snap into the recess instead of requiring the rotary relative movement between the cap and shell which is necessary both with Kenney and with the defendant's sockets. Likewise, to detach the cap and shell of Weber, it is only necessary to press inwardly the shell whereupon the cap and shell can be separated by a direct longitudinal movement, whereas with Kenney and with the defendant's sockets a motion of rotation is required before the cap and shell can be pulled apart.

But even this specific difference was not new with Weber. In addition to the Kenney patent No. 712,686, the Patent Office Examiner referred to the patent of

Oetting, No. 642,825, Feb. 6, 1900. This patent is for a socket
285 for incandescent electric lamps. The cap 4 is provided with three locking recesses 11, corresponding in office with the two locking recesses 13 in Weber's cap 2, shown in Fig. 1. Oetting's shell or case 5 has three slots formed in its wall and the metal of each of said slots is bent so as to form an elastic projection or catch 6. To lock the cap and the shell together, the three catches 6 are pressed inwardly until the cap and shell have been telescoped or nested together sufficiently to cause the edge of the cap to overlap the catches. Thereafter, by a direct longitudinal or simple telescopic movement the cap and shell are nested together and the catches 6 automatically snap or spring into the locking recesses 11. These catches 6 constitute a portion of the slotted sleeve 5 and to again unlock the catches are manually compressed so as to free them from the slots 11 whereupon the cap and sleeve may be separated. In other words, the action is that called for by claim 4 of the Weber patent, which says that the "members" (cap and shell) "are adapted to automatically interlock with a snap action when telescopically applied to each other and to be released by manual compression of said slotted sleeve." It is to be noted in the construction shown in Fig. 3 of Weber the only portions of the sleeve which require compression are those portions where the interlocking projections 22 are located, just as in Oetting the only parts of the sleeve which require compression are the integral catches 6.

Oetting thus shows that it was old to provide elastic projections on

one member to snap into and automatically interlock with recesses in the other member when the two members were telescopically applied, unlocking being effected by compression of the projections.

In remarks accompanying the amendment filed March 30, 1903, Weber distinguished from this Oetting construction as follows:

"In the Oetting construction the parts cannot be locked
286 together by simple telescopic movement, it being necessary to manually depress the three catches, 6, that is, at the same time the operator is applying the cap to the sleeve, he must engage each of these catches or tongues with one of his fingers and simultaneously press all three inwardly until the catches are so depressed that the cap can pass down over them. Furthermore, the slits whereby the tongues, 6, are formed materially weaken the shell of the socket."

The distinction here made, that Oetting requires a preliminary inward squeeze of his catches to start telescopic movement while Weber does not, is not novel, as shown by the patent of

Rodman, No. 414,922, Nov. 12, 1889. Rodman shows an incandescent lamp socket having two telescopic sleeves or "members" 21 and 33, shown in Figs. 2, 3 and 9. The upper member 21 has locking recesses 44. The lower member 33 has outwardly projecting beveled spring catches 42. In this construction the two members 21 and 33 can be united by a simple longitudinal or telescopic movement without any manipulation of the catches 42. It is enough to simply insert the lower member 33 into the upper member 21 and to continue the insertion by a straight movement whereupon the beveled catches 42 will come in contact with the lower edge of the member 21, will be automatically pressed in, and will finally snap into and automatically interlock with the recesses 44. To unfasten it is simply necessary to press the catches 42 inwardly by means of the push buttons 45 with which each is equipped, as shown in Fig. 3.

Accordingly, this distinction between Weber and Oetting possesses no novelty.

Another difference which the above quoted argument makes between Oetting and Weber is that Oetting weakens his shell
287 because his elastic projection slits extend clear out to the edges of the shell; whereas, in the Weber construction the elastic projection is formed by slitting the metal so as to leave a margin of the shell all around the projection. This, however, is a most obvious expedient and was wholly lacking in novelty as shown, for example, by the patent of

Ashworth, No. 589,921, Sept. 14, 1897. This Ashworth patent is for a match box and not for an incandescent lamp socket. But claim 4, is not for an incandescent lamp socket, and the Weber patent is not confined to electric lamp sockets. Moreover, the distinction attempted to be made by Weber over Oetting is merely an expedient of the sheet metal worker irrespective of the use to which the sheet metal article is put. Weber makes one of his catches or projections by cutting a slit in the wall of the casing and then

bending out the metal separated by the slit to form a projection or tongue which is joined to the shell opposite the slit.

Ashworth likewise forms a projection *f* by slitting his metal and bending out the projection *f* leaving it united with the body from which it is bent. If, however, there is any specific difference between Weber's specific way of making his catches and that of Ashworth, it is of no present significance because in defendant's sockets there are no projections formed from the cap at all; certainly none made in the specific way called for by Weber. It will be noted that Ashworth has the same general plan of locking and unlocking as Weber. When the match box cover B is turned down the catch is automatically bent back out of the way and when the cover is closed down it automatically snaps into the notch *h* of the cap and automatically interlocks therewith. To unlock the plate F is pressed in by manual compression through the projecting stud *g* whereupon the cover can be opened.

Ashworth has a hinged cover and his catch *f* is not formed in the body of the box. It was old, however, to have a sheet metal box with a telescoping cover and to provide the box with a compressible wall carrying a catch to facilitate removing the cover, as shown by the patent of

Pollard, No. 320,814, June 23, 1885. Pollard shows a pocket box for cards, tickets, matches, and the like. The body of the box is slitted at the four corners at the top so as to make the end walls compressible. One of the end walls D is provided with an outward projection *d* which co-operates with the recess *e* in the telescoping cover E. When the cover is put on the stud *d* snaps into the recess *e*. To unlock the stud the body of the box is manually compressed so as to bend the section D inward and thereby release the stud.

A similar organization is shown in the patent of

Epstein, No. 657,267, Sept. 4, 1900. In the match box of this patent the front rim *b* is manually compressible and it has riveted to it the spring catch D, the catch end *l* of which engages a hook *k* on the cover B. When the cover is closed down the hook *k* is automatically locked by the catch. To unlock the cover, the thumb is pressed against the front rim *b*, near the top thereof, whereby the spring catch is forced back and the hook is released.

Likewise, in electric lamp sockets it is old to make the socket shell compressible by longitudinal slitting as shown in the patent

Kenney, No. 712,685, Nov. 4, 1902. In this patent the socket sleeve or shell is slitted at D and adjacent these slits are the recesses E which co-operate with the radial studs G, of the cap. The portion of the metal at F between each slit D and each recess E, is referred to as a "partition or bridge." Concerning the construction the specification says:

"Said partitions or bridges by reason of the presence of the open top slots or channels D yield or spring inwardly to a sufficient extent to permit the studs G of the cap to ride freely over them and until they register with and enter the slots E, where they are held by the return of the bridges F to their normal

positions, the relation between the shell B, insulating lining H and blocks I being such as to allow this limited spring action of the partitions or bridges F." (Page 1, line 91, to page 2, line 2.

Likewise, in the Kenney patent No. 712,686, already considered, the shell or casing is compressible by reason of key slot K, so that the portion of the shell in which the locking recess E is located adjacent to the key slot is rendered resilient as well as by the slit D, and the shell is compressed inwardly both in locking and unlocking.

These various patents of the prior art show the extreme attenuated character of the novelty of the locking and unlocking means recited in claim 4 of the Weber patent. And that attenuated novelty as recited in claim 4 is not present in the defendant's sockets.

Claim 1 of the Weber Patent.

Claim 1 specifies an aggregation and not a combination, because it recites the two unrelated features of preventing the rotation of the insulating base, and of locking the cap and sleeve together.

The claim calls for "a sheet metal sleeve having introverted tongues" and "an insulating base for electrical fittings loosely enclosed within said sleeve in engagement with said tongues." This has reference to the devices for preventing relative rotation between the sleeve and base which are more particularly recited in claims 2 and 3.

290 On the other hand, claim 1 calls for "a pair of members comprising a sheet metal sleeve having a slotted end and a cap adapted to telescopically receive the slotted end of said sleeve, said members having interengaging parts adapted to automatically interlock with a snap-action when telescopically applied to each other, and to be released by compression of said sleeve." This has reference to the devices for locking the cap and sleeve together which are specifically set forth in claim 1.

It will be noted that this language of claim 1 expresses the cap and sleeve locking means much more comprehensively than claim 4. Indeed, these recitations of claim 1 are substantially the same as the recitations of original claim 2 which was rejected upon the patent of Oetting No. 642,825, and of Kenney, No. 712,686, and was then cancelled. Original claim 2 was as follows:—

"2. In a device of the class described, and in combination, an inner, resilient, split, tubular member, and an outer member adapted to telescopically receive said split member, said members having interengaging parts adapted to automatically interlock with a snap action when telescopically applied to each other, and to be released by compression of said inner member."

Claim 1 covers the subject matter of rejected and abandoned claim 2 when aggregated with the means for preventing rotation between the closing sleeve and insulating base.

It is evident that these two different features are wholly independent of each other and have no common object. Their only relation

one of juxtaposition due to their incorporation in the same structure.

The wholly independent character of these two different contrivances is well shown by the exhibits illustrating defendant's manufacture.

Defendant's key socket has no means for preventing the insulating base from rotating except the projecting key itself. It has no "introverted tongues" for this purpose on the sheet metal sleeve as called for by claim 1. In this key socket of defendant, the insulating base can be removed altogether and then the locking devices between the cap and the shell act just as perfectly as when the insulating base is present. The perfect and complete locking action between the shell and cap has nothing whatever to do with the presence or absence of the insulating base or whether the base is prevented from rotation or not.

The same lack of any co-operative action between the two sets of instrumentalities is likewise shown by defendant's keyless socket. The insulating block can be removed from this socket and the locking devices between cap and shell are then equally perfect in their action while the inbent tongues then perform no office whatever. Likewise, the cap of this exhibit can be removed altogether, and if the insulating base is then put in place, the inturned tongues perfectly perform their office of keeping the insulating base from rotating.

These two contrivances have no relation whatever between each other.

The same is true of the socket of the patent in suit. If Weber's insulating block is removed, the locking devices between the cap and shell act perfectly and the introverted tongues then have no function. Likewise, Weber's cap can be removed and his introverted tongues then act with equal efficiency to prevent rotation of the shell with respect to the insulating base.

Accordingly, claim 1 recites an aggregation of unrelated features and not a combination or unitary structure at all.

Moreover, the prior art abundantly shows that it was old before Weber to provide an incandescent lamp socket both with means for locking the cap and shell together and with means for preventing rotation of the insulating base within the shell. This is shown by the patents of Marshall, No. 680,932, and No. 690,976, and of Knowles, No. 516,819, to which I have already referred and explained.

It being thus old to provide a lamp socket with these two sets of devices, it is a mere matter of selection and not a combination to provide any given lamp socket with any given sets of devices for these two distinct purposes. Manifestly, Weber's introverted tongues for preventing the rotation of the insulating base could be used in connection with any of the old expedients for locking the cap and shell together. Likewise, Weber might use his specific means for locking the cap and shell together in connection with any of the old ways for preventing the insulating base from rotation within the shell. This emphasizes the fact that the two sets of devices are wholly

independent and unrelated and hence claim 1 recites an aggregation and not a combination.

Moreover, as I have heretofore shown, neither of these independent features recited in claim 1 is in itself new. The German patent of Mix & Genest, No. 106,898, shows introverted tongues engaging recesses in an insulating base for preventing rotation. The recitations of claim 1 concerning the locking of the cap and sleeve together are substantially those of rejected and cancelled claim 2. This claim 2 was rejected upon Oetting, No. 642,825, and upon Kenney 712,686, and in view thereof the claim was cancelled. Moreover, these recitations of claim 1 of the Weber Patent are present in the socket of said Kenney patent unless indeed the expression "when telescopically applied to each other" of the claim is intended to identify the exact construction of Weber, wherein a straight longitu-
293 dinal movement between shell and cap suffices for locking and unlocking, thus distinguishing from Kenney wherein a rotary movement between cap and shell is also necessary for both locking and unlocking. If, however, this is a valid distinction between Kenney and Weber it is equally valid between Weber and defendant because defendant's sockets are like those of Kenney in that after the cap and sleeve are nested together a rotory movement between the two is necessary for locking and also thereafter for unlocking before the cap and sleeve can be pulled apart.

If, however, this distinction is ignored, then claim 1 with respect to the locking and unlocking characteristics does not distinguish from said Kenney patent, 712,686. Kenney has "a pair of members comprising a sheet metal sleeve having a slotted end" and "a cap adapted to telescopically receive the slotted end of said sleeve." These parts consist of Kenney's sleeve B with its slots D and K; and his cap C which receives the slotted end of the sleeve telescopically. The claim further requires that said sleeve and cap should have "interengaging parts adapted to automatically interlock with a snap-action when telescopically applied to each other, and to be released by compression of said sleeve." On the assumption that "when telescopically applied to each other" is sufficient to include the rotary locking movement of both Kenney and the defendant's sockets, then this language applies to Kenney. Kenney has interengaging parts, namely, the studs G on the cap and the holes E of the sleeve, which automatically interlock with a snap action when brought into register; and the release of these studs G from the holes E is effected "by compression of said sleeve" as stated in the claim. It is true that in Kenney the releasing compression of the sleeve is caused automatically and not by "manual" force, but claim 1 says nothing about "manual" compression. Claim 4 of the patent does specify
294 "manual" compression, but claim 1 does not. In this respect claim 1 is like original and cancelled claim 2, which was rejected upon the Kenney patent and was withdrawn.

Accordingly this feature of interlocking recited in claim 1 can be distinguished from Kenney only by construing "when telescopically applied to each other" to refer to the locking which takes place in the Weber structure by simply inserting one part within the other with-

out any rotation. This distinction was pointed out on behalf of Weber in the remarks accompanying the amendment filed March 30, 1903. In these remarks it is stated that in the Weber construction "the parts are permitted to be applied to each other by simply inserting one within the other without manually compressing the inner member"; that in the Oetting construction "the parts cannot be locked together by simple telescopic movement, it being necessary to manually depress the three catches, 6"; and that "Kenney's device is adapted to unlock by simply rotating one member upon another in the same manner that the parts are locked together, no manual compression of the inner member being necessary."

It is this characteristic which effects locking and unlocking by a telescopic movement only as distinguished from a rotary movement which alone distinguishes the locking and unlocking of claim 1 of Weber from Kenney, and this novelty, such as it is, is not present in either of defendant's sockets.

If this distinction is ignored, then there is no novelty whatever in the subject matter of claim 1. The introverted tongue feature for preventing rotation of the insulating base is old as shown by the German patent; and the feature of locking the cap and shell is shown in the Kenney patent.

Obviously, no novelty can be predicated upon the aggregation in the same socket of these two old, unrelated sets of devices.

295 Concededly, defendant's key socket does not have the subject matter of claim 1 of the Weber patent. If novelty is to be found in this subject matter it must be in the telescopic application which differs from the rotary movement which effects locking and unlocking in Kenney, and in this respect defendant's keyless socket is like Kenney and hence does not have such subject matter of claim 1.

Adjourned until to-morrow, Wednesday, February 16, 1910, at 10 o'clock A. M.

Washington, D. C., Feb. 16, 1910—10 A. M.

Met pursuant to adjournment.

Parties present as before.

Stipulation.

It is hereby stipulated and agreed by and between counsel for the respective parties hereto, the Honorable Court consenting, that the defendant may amend his answer, particularly with respect to clause fourteen thereof, to plead as a part of the defense set out in said clause, the following prior art patents:

United States Patents to:

Edward R. Knowles, No. 516,819, dated March 20, 1894.

Norman Marshall, No. 690,976, dated Jan. 14, 1902.

Owen E. Kenney, No. 712,685, dated Nov. 4, 1902.

Samuel Rodman, No. 414,922, dated Nov. 12, 1889.

Morris Epstein, No. 657,267, dated Sept. 4, 1900.

296 Isaac G. Pollard, No. 320,814, dated June 23, 1885.

Richard J. Ashworth, No. 589,921, dated Sept. 14, 1897.

German Patent to Mix and Genest, No. 106,898, dated April 9, 1899, issued Nov. 23, 1899.

Counsel for defendant here offers in evidence the following Letters Patent, and requests the Examiner to receive the same to be marked respectively:

"Defendant's Exhibit, Certified Copy, German Patent to Mix and Genest, No. 106,898, dated April 19, 1899."

"Defendant's Exhibit, U. S. Patent to Pollard, No. 320,814, dated June 23, 1885."

"Defendant's Exhibit, U. S. Patent to Rodman, No. 414,922, dated Nov. 12, 1889."

"Defendant's Exhibit, U. S. Patent to Ashworth, No. 589,921, dated Sept. 14, 1897."

"Defendant's Exhibit, U. S. Patent to Oetting, No. 642,825, dated Feb. 6, 1900."

"Defendant's Exhibit, U. S. Patent to Epstein, No. 657,267, dated Sept. 4, 1900."

"Defendant's Exhibit, U. S. Patent to Kenney, No. 712,685, dated Nov. 4, 1902."

"Defendant's Exhibit, U. S. Patent to Kenney, No. 712,686, dated Nov. 4, 1902."

"Defendant's Exhibit, U. S. Patent to Wirt, No. 587,027, dated July 27, 1897."

"Defendant's Exhibit, U. S. Patent to Perkins, No. 626,927, dated June 13, 1899."

"Defendant's Exhibit, U. S. Patent to Marshall, No. 680,932, dated August 20, 1901."

"Defendant's Exhibit, U. S. Patent to Marshall, No. 690,976, dated January 14, 1902."

"Defendant's Exhibit, U. S. Patent to Knowles, No. 516,819, dated March 20, 1894."

297 Cross-examination.

By Mr. Curtis:

X Q. 10. What training and experience have you had in that branch of the electrical art which relates to sockets for incandescent electric lamps?

A. Only such as has been derived from an examination of a good many sockets, the study of patents relating thereto, and testifying as an expert in litigation thereon.

X Q. 11. You have testified with regard to a number of patents for devices of this character. With which of the devices represented by said patents are you familiar as embodied in actual lamp socket structures? Please answer the question fully with reference to all patents which you have referred to in your testimony herein.

A. I am familiar with the defendant's socket made in accordance

with the Freeman patent, No. 927,344. I have examined sockets that I understand are made by the complainant and which have some of the characteristics of the Weber patent in suit, but which have various features of difference. I have examined sockets like those of the Perkins patent No. 626,927. I have examined other sockets which are substantially like the Wirt patent No. 587,027. I have also examined other sockets which are substantially like that of the Kenney patent No. 712,686. As to the other patents to which I have referred I am not certain. I have examined in the past a great many different styles of lamp sockets but do not now recall them sufficiently well in their details to say whether they are like or unlike the other patents which I have now referred to.

X Q. 12. I take it from your answer to X Q. 10 that you have testified in some other suit or suits as an expert in matters relating to incandescent electric lamp sockets. If this is the fact, please state in what such suits you have so testified?

298 A. I have testified in two suits for the Crouse-Hinds Company, Syracuse, New York, on incandescent electric lamp sockets. Both suits were brought by the General Electric Co., or allied interests. The Crouse-Hinds Co. defended both cases. I am not certain that they were the actual defendants, as it may have been their customers who were sued.

X Q. 13. To what feature of lamp socket construction did that litigation relate?

A. I do not now recall specifically. I could readily ascertain.

X Q. 14. Have you ever wired up an incandescent electric lamp socket?

A. No.

X Q. 15. Have you ever witnessed the operation of a lineman in wiring up such a socket so as to become familiar with such operation?

A. Yes. I have seen it done. I do not know, however, that I could now, give a detail explanation.

X Q. 16. Have you examined all of the patents set up in the defendant's answer in this suit?

A. I have not seen the defendant's answer. On being shown a copy of defendant's answer I answer the question in the affirmative.

X Q. 17. I take it then that you have selected from the patents set up in the answer the ones to which you have particularly referred by name and number in your testimony as being more pertinent to the matter here in controversy than the others to which you have now so particularly referred. Is that correct?

A. Yes.

X Q. 18. You have used in several places in your direct testimony the word "novelty" or the expression "substantial novelty" with reference to the subject matter of the several claims of the Weber patent here in controversy. Will you please explain just what you mean by those expressions?

299 A. By "novelty" I mean something which is new irrespective of its importance or the quality of the art which re-

sulted in its production. By "substantial novelty" I referred to something which was new and at the same time has some characteristics of importance either in utility or as inferring some mental exercise in its production. To specifically illustrate it might be new to paint a red cross on the casing of an electric lamp socket. Such a socket so painted would be new in the sense that nothing of the sort had ever been done before. It would not be substantial novelty, because it would not be of any use to the socket as such; nor would it require the exercise of any mental faculty to carry out the idea of painting such a red cross on the socket.

X Q. 19. In view of your definition of the word "novelty" and the expression "substantial novelty," should you not in the last two paragraphs of your direct examination have used the expression "substantial novelty" instead of the word "novelty?"

A. If the distinction is to be always kept in view referred to in my proceeding answer, it would have been more accurate to have said "substantial novelty" in the two paragraphs referred to.

X Q. 20. Without regard to whether so doing constitutes patentable novelty or invention, or makes a combination or merely an aggregation, which I understand are matters for the court to pass upon, is it not a fact that so far as is shown by the prior art considered by you, Weber was the first to bring together in the same incandescent electric lamp socket, the two features, one constituting a sheet metal sleeve and cap adapted to automatically interlock with a snap action, and the other constituting an introverted portion of the wall of that sleeve adapted to occupy a recess in the enclosed base of insulating material to prevent relative rotation of said base and sleeve?

A. Yes.

300 X Q. 21. And is it not a fact that "Complainant's Exhibit, Defendant's Keyless Socket" has the assemblage of features stated in the last preceding question?

A. Yes.

X Q. 22. Which of the prior art patents, if any, discloses a sleeve and a cap adapted to automatically interlock with a snap action, assuming that the term "automatically interlock" means that the interlocking is accomplished without manipulation of the interlocking devices themselves in assembling the case and cap together?

A. The two Kenney patents, No. 712,685 and 712,686, and the Rodman patent No. 111,922. Also the Ashworth patent No. 589,921 and the Epstein patent No. 657,267.

X Q. 23. Do I understand correctly that the ones named by you are the only ones which show this feature?

A. Yes. Of course, instances could have been indefinitely multiplied to show the antiquity of what is referred to in X Q. 22. That question would apply to an ordinary closed face watch.

By Mr. Curtis: The last part of the answer is objected to as not responsive to the question.

X Q. 24. Referring to the Epstein patent, do you find shown therein a construction which may properly be termed a sheet metal sleeve?

A. Yes.

X Q. 25. Please define the word "sleeve" as you understand it in its relationship to the construction in said Epstein patent?

A. The use of the word "sleeve" in mechanics is a figurative one. It is any enclosing structure. Epstein makes an enclosing structure of two parts, consisting of the frame A, shown in Fig. 1, which is described as "made in a single piece from a strip
301 of thin metal" (page 1, line 30), and the cover E, which is "made from a single piece of material" (page 1, line 64) and which is riveted to the thin metal frame. The box thus formed constitutes a sleeve in the sense that it is adapted to enclose something, in this case, matches.

X Q. 26. Then in stating that Epstein shows a sleeve you refer to the complete built up body of the box?

A. Yes.

X Q. 27. Is there shown in the Epstein patent a part which, in your opinion, corresponds with or is substantially the same as the projection 14 or the projection 20 of the Weber patent in suit?

A. That depends upon how broadly or narrowly said projections 14 and 20 are regarded. The projection 14 is a projection on the case, broadly considered, which co-operates with a part of the cap to permit locking of the cap to the case. So regarded, Epstein's catch *l* is like Weber's projection 14. Likewise Weber's projection 20 is, broadly considered, a part on the cap which interlocks with a part on the case; and in this broad significance is like Epstein's hook *k*.

When, however, the specific details are taken into consideration, Epstein has no parts like Weber's projections 14 and 20. Each of these parts is formed by slitting the part carrying it transversely and then displacing the wall on one side of the transverse slit to form a projection which is beveled or inclined and terminates abruptly at the slit. Epstein has no projections formed in this way.

X Q. 28. Will you please state fully with reference to just what features of construction, function and manner of operation, you consider the Epstein patent to have pertinence to claim 4 of the Weber patent in suit?

A. Claim 4 recites that the unlocking is effected by man-
302 ual compression of the sleeve. I have referred to the Epstein patent simply because it shows manual compression upon the sleeve or case for effecting unlocking.

X Q. 29. Do you consider it more pertinent in this respect than the Oetting No. 642,825?

A. Yes.

X Q. 30. I wish you would kindly explain in what respect it is more pertinent with reference to this feature of releasing by manual compression of the sleeve?

A. Because in the Oetting construction the only parts which are manually compressed are the catches themselves; whereas in Epstein a wall of the box is manually compressed. That wall carries the catch. In other words, in Epstein it is the wall construc-

tion and not the catch construction which permits manual compression.

X Q. 31. The part compressed in either case, however, is a tongue formed by two longitudinal slits or lines of separation from the rest of the sleeve or box body on opposite sides of said tongue, and said tongue carries the catch or interlocking device. Is not this so?

A. Yes.

X Q. 32. In considering the Epstein patent have you considered as in any way material the fact that the catch member *l* is formed on a spring member D, and not on the wall of the box?

A. Yes.

X Q. 33. In the Rodman patent and the Ashworth patent the releasing is accomplished, is it not, by manual compression of the catch members themselves instead of by manual compression of the sleeve or box body?

A. Yes.

X Q. 34. Referring to the Rodman patent 414,922, assuming the diameter to be substantially the same as the diameter of the complainant's and defendant's sockets, can you state ap-
303 proximately how much inward movement of the hook portion of the spring catch 42 is required to withdraw it from the aperture 11, in which it is shown seated in Figures 3 and 9?

A. About one-twentieth of an inch.

X Q. 35. Then the inward movement of the lower end of said member 42 where the thumb piece 45 is connected therewith would necessarily be considerably greater than this, would it not?

A. Yes.

X Q. 36. This would necessitate in adapting this construction to the modern lamp socket such as illustrated by the complainant's and defendant's sockets the provision of recesses or the cutting away of the insulating base to permit of such a movement, would it not?

A. Yes.

X Q. 37. Have you any knowledge of the use of lamp sockets of the type shown in this Rodman patent?

A. No.

X Q. 38. Do you understand that the members interlocked by means of the spring catches 42 in this Rodman patent are sleeve and cap members of the shell or casing of an incandescent electric lamp socket?

A. That depends entirely upon the significance to be given to those terms. Broadly speaking, they are.

X Q. 39. Is it not a fact that the spring catches 42 are carried by and constitute a part of the lamp and not of the socket therefor?

A. That depends upon how you define the parts. Rodman describes both the parts 21 and 33 as sockets, as at lines 19 and 20 page 2. His socket 33 is fastened to the lamp while his socket 21 is secured to the box 10. In this connection, however, I call attention to the circumstance that claim 4 of the Weber patent in

connection with which I referred to this Rodman patent, 04 says nothing about an incandescent lamp socket. It simply refers to a pair of members comprising a sleeve and a ap. Rodman's socket 33 is a sleeve and his socket 21 constitutes cap therefor, since it encloses and covers it.

X Q. 40. Do you understand that the part of the lamp conining the filament is intended to be inserted in and removed from ne part 33 from time to time in substituting new filaments for d ones?

A. Yes.

X Q. 41. What, if anything, do you find in the specification to ow this?

A. I do not see that the Rodman specification makes any direct tement in this connection. He does say, however, that the ring within the socket 33 "serves as a stop or limit block when the obe is introduced" (page 2, line 3) from which I infer that the obe 30 can be inserted and removed whenever desired as would the case should the filaments require replenishment.

X Q. 42. What do you understand to be the function of the astic filling 41, referred to in the Rodman patent?

A. It keeps the glass globe away from the socket 33 and affords means for accurately fitting the globe in place.

X Q. 43. Is it not a means for cementing the inner end of the ass bulb 30 in place within the part 33?

A. Yes.

X Q. 44. And is it not also a fact that the lamp 30 cannot be moved except as a component part of a structure which includes e member 33 and the member 32 without breaking the wire conctions 34 and 37?

A. Yes.

X Q. 45. Referring to the Perkins patent 626,927, what is the cumferential extent of the recesses into which you have testified the screws 7 enter to prevent rotation of the porcelain base 5 relatively to the sleeve of the socket?

A. I do not know. There is no figure showing their circumferential extent and the specification does not describe it.

X Q. 46. How then are you able to state that it is so limited in ent that the end of the screw when located therein will prevent ch relative rotation?

A. Because the screws fit in the plates 41, as shown in detail in g. 8, the plates 41 fit in the recesses 42, as shown in Fig. 4, and se recesses 42, as shown in Fig. 5, are just wide enough to reve the plate 41. Accordingly, the insulating block could not ate in the shell even if the key 39 were not present. For this rpose the plates 41 can be regarded as parts of the screws 7.

X Q. 47. Then it is entirely immaterial whether the ends of the ews enter the recesses in the porcelain block or not so far as this tture of rotation is concerned, is it not?

A. No. It is necessary that there should be some recess for the ds of the screws to enter. It is not necessary, however, that

there should be any accurate fit between the ends of the screws and the recesses in which they directly enter.

X Q. 48. Referring to Figure 11 of the said Perkins patent the hub of the handle 39 on the key shaft must be small enough to pass freely down through the comparatively narrow slot leading to the considerably wider circular shaped opening 9, as shown in Figure 11, must it not?

A. Yes.

X Q. 49. Said hub would then have considerable play in the comparatively larger opening 9, would it not?

A. Yes.

Adjourned until March 9, 1910, at 10 o'clock A. M., at same place.

306 Washington, D. C., March 9, 1910—10 a. m.

Met pursuant to adjournment.

Parties present as before.

Cross-examination of Mr. Browne resumed.

By Mr. Curtis:

X Q. 50. Do you find in either the Ashworth patent or the Epstein patent referred to by you, any feature having the function of what is referred to in claim 4 of the Weber patent in suit as a recess?

A. Yes.

X Q. 51. What do you consider to be the function of the recess referred to in said claim?

A. The recess of claim 4 is the hole 13 of Fig. 1, which engages the bevel catch 14; or it is the hole 21 of Fig. 3, which engages the beveled catch 20.

X Q. 52. Can you explain the application of the term "recess" to the Ashworth and Epstein patents, in view of your statement of function in the last answer?

A. As stated in the last answer the recess is the feature which co-operates with the catch. In Ashworth No. 589,921, the cap B has a recess (called a "notch *b*") which co-operates with the projection or catch *f*.

The corresponding recess of the Epstein patent No. 657,267, is the recessed portion of the cap B, which is above the hook *h* (Figs. 1 and 4) which cooperates with the catch *l* carried by the body of the box.

X Q. 53. Kindly define the term "recess" as you understand it to apply equally to the Weber construction and the Ashworth and Epstein constructions?

A. It is a portion of a device which recedes from any
307 given datum point or surface. The purpose in all three patents is simply to provide one of the parts which is to be fastened with a shoulder which can co-operate with the catch.

In the Weber patent this recess is (in the case of Fig. 1) a portion which recedes from the inner surface of the catch so as to furnish a shoulder for the end of the catch 14 to engage. Likewise, in the Ashworth patent No. 589,921, there is a notch *b* formed on the inner face of the cap B, and which recedes from the inner surface, thereby forming a shoulder to engage the end of the catch *f*. Likewise, in the Epstein patent No. 657,267, the inner surface of the cap B recedes from the edge of the hook *k*, thereby furnishing a shoulder with which the catch *l* engages.

X Q. 54. You stated in your direct examination with reference to the Weber construction that "the cap and shell can be nested together by a straight longitudinal or 'simple telescopic' movement and that the projection will then snap into the recess instead of requiring the rotary relative movement between the cap and shell which is necessary both with Kenney and with the defendant's sockets." It is your understanding that the construction set forth in the Weber patent in suit is adapted for assembling of its cap and sleeve members only by a straight longitudinal relative movement thereof?

A. No. The Weber construction is, however, such that all which is necessary in locking and unlocking is to move the cap and sleeve relatively to each other, by a simple telescopic or straight longitudinal movement. Anything beyond that is unnecessary and superfluous. Nevertheless, I think that that unnecessary movement can be given to the cap and shell beyond the straight telescopic movement. Such extra movement would, however, be superfluous.

X Q. 55. In giving your direct testimony have you or have you not considered claim 4 as restricted to a construction the cap and sleeve or shell members of which can be assembled and interlocked by a straight longitudinal movement?

A. Yes, to the extent that the construction must be one wherein the cap and sleeve are capable of being assembled and interlocked by a straight longitudinal movement.

X Q. 56. Then as I understand your testimony if in place of the lug 19, aperture 15, and bent portion 16, of the defendant's socket as illustrated in the Freeman patent No. 927,344, there were substituted an outward projection on the sleeve substantially like the projection 14 in the Weber patent and an opening in the flange of the cap substantially like the opening 13 in the Weber patent, so placed as to receive said outward projection when the parts were in final assembled position, such a construction would nevertheless not come within the scope of claim 4 of the Weber patent because of the fact that some relative rotary movement of the parts is necessary in reaching such final assembled position?

A. It would not. As I understand the construction suggested in the question the interlocking would be due solely to the relative rotary movement between cap and shell and would not be due at all to the telescopic movement; whereas I understand that claim 4 requires that interlocking is the result of the telescopic movement.

X Q. 57. You understand do you not, that in the construction

suggested in the last previous question the interengagement of the locking devices could not occur without the full telescopic relative movement of the case members?

A. Yes.

X Q. 58. Is your opinion as to the limited scope of said claim 4 of the Weber patent with reference to such straight longitudinal movement in assembling the parts based upon the amend-
309 ment incorporated in said claim concerning which you testified near the end of your direct examination?

A. No.

X Q. 59. With reference to the amendment of claim 4 of the Weber patent to which you have referred, is it your opinion that any further distinction was intended to be expressed either by the amendment or the argument submitted in connection therewith with reference to the Oetting patent, than that the interlocking of the cap and sleeve members could be accomplished in the Weber construction by reason of the bringing together of said cap and sleeve members whereas in the Oetting construction said members not only had to be brought together but the individual catches or locking devices had to be manipulated?

A. Certainly there was. Claim 4 was amended to unmistakably limit the claim to a particular sort of projection not shown by either Oetting No. 642,825, or Kenny, 712,686, upon which the claim had been rejected. The claim as filed simply called for one of the parts having "a correspondingly located projection beveled or inclined toward said recessed member and terminating abruptly." Under this definition the projection might have been made in various ways. It might, for example, have been a separate piece of metal riveted to the part carrying it, as, for example, in the case of defendant's sockets. The amendment to claim 4 confined the projection to one made in the specific way called for, that is to say, the amendment requires that one of the telescoping parts should have "a correspondingly located *transverse slit and the wall on one side thereof displaced to form* a projection beveled or inclined toward said recessed member and terminating abruptly *at said slit*," the words here italicized showing the amendatory mat-
ter in this regard. This amendment restricted the projec-
310 tion to a minutely specific construction which unmistakably distinguishes from the prior patents cited by the Patent Office.

X Q. 60. Do you find in the language of said amendment anything which requires that the parts must necessarily be adapted to be assembled and interlocked by a straight longitudinal movement?

A. No. That requirement was already in the claim and did not have to be inserted by amendment.

X Q. 61. In support of the opinion which you have expressed you quoted from the file wrapper of the Weber patent the following remarks accompanying the amendment of claim 4 to which you have referred: "In the Oetting construction the parts cannot be locked together by simple telescopic movement, it being neces-

sary to manually depress the three catches 6—that is, at the same time the operator is applying the catch to the sleeve he must engage each of these catches or tongues with one of his fingers and simultaneously press all three inwardly until the catches are so depressed that the cap can pass down over them. Furthermore, the slits whereby the tongues 6 are formed materially weaken the shell of the socket."

Is it not clear from these remarks that the "simple telescopic movement" to which applicant intended to call attention referred to the fact that the assembling of the parts of the shell automatically accomplished the interlocking in the Weber construction, whereas something further, namely, manipulation of the individual catches was required in the Oetting construction, rather than that said expression "simple telescopic movement" had reference to mere direction of movement?

A. Possibly taken by itself the quoted passage might be so regarded. Taken in connection with the context, however, I think not. The passage quoted is part of an argument distinguishing both from Oetting and from the Kenny patent No. 712,686
311 and the argument calls attention to the fact that Kenny's device is adapted to unlock by "simply rotating one member upon another in the same manner that the parts are locked together" and at the outset the argument referring generally to the Weber construction says that "the parts are permitted to be applied to each other by simply inserting one within the other without manually compressing the inner member."

Taking the entire argument into consideration in connection with the fact that the Weber construction permits locking by a simply straight longitudinal movement and that thereby the construction is distinguished from the Kenny patent wherein a rotary movement is requisite in addition to the telescopic movement, it is unmistakable that when claim 4 uses the word "telescopically" it means that the parts can be assembled and locked by a straight longitudinal movement, which excludes a rotary movement as an essential part of the action.

X Q. 62. In your last answer you quoted as follows from the file wrapper, remarks submitted in connection with said amendment of claim 4: "the parts are permitted to be applied to each other by simply inserting one with the other without manually compressing the inner member." Do you understand said remarks have reference to the Oetting patent or to the Kenny patent?

A. That particular remark as stated in the preceding answer has reference to the Weber construction.

X Q. 63. Do you not understand that it is intended to refer also to one of the references cited showing in what manner the Weber construction differs from that of said reference? If so, to which reference does it refer?

312 A. I understand it refers to the Weber construction which distinguishes from both references. So far as the simple insertion alone is concerned it distinguishes from Kenny. So far as manually compressing is concerned it distinguishes from Oetting.

The remarks first refer to the Weber construction stating its characteristics which are not in the references.

It then takes up the Oetting patent and specifically distinguishes from that; and finally takes up the Kenny reference and specifically distinguishes from that.

X Q. 64. Confining the discussion for the present to the remarks quoted from the file wrapper of the Weber patent in the last preceding question I infer from your last answer that you understand the words "simply inserting" to have reference to a straight longitudinal movement as distinguished from the necessary rotative movement of the parts in the Kenny patent in assembling the shell members. Do I correctly understand you?

A. Yes.

X Q. 65. Do you not think that the said words "simply inserting" may fairly be interpreted to have reference merely to the fact immediately thereafter stated in said remarks that such inserting is "without manually compressing the inner member"?

A. No. They include that and also define the actual construction and mode of operation and distinguish from the contrasting rotary movement of Kenny which is subsequently specifically mentioned.

X Q. 66. Then is it also your opinion that the expression "simple telescopic movement" in the remarks quoted from the file wrapper in X Q. 61 is intended to differentiate from Kenny rather than from Oetting?

A. No. In that particular paragraph he is distinguishing from Oetting.

313 X Q. 67. Then the expression "simple telescopic movement" in said last quotation does not necessarily imply straight longitudinal movement, does it?

A. It does. And it is simply that and nothing more, as for example the additional movement requires Oetting to first depress his catches.

X Q. 68. But Oetting construction can be assembled by a partial rotative movement by depressing the catches, can it not?

A. Yes, but such rotary movement would be wholly unnecessary.

X Q. 69. On the contrary considering the fact that the width of the tongue 9 in Oetting is practically the same as the length of the slot 11 into which it is to fit, does it not seem reasonable that in a great many, if not a majority of cases, the parts could not be assembled by a straight longitudinal movement in such perfect alignment as to snap together. And in this connection I call your attention to the well known difficulty of assembling the case members of lamp sockets within a husk of a chandelier?

A. No. In this connection please note that the Oetting specification states the construction otherwise than is stated in the question. Oetting says

"the slots 11 in the flange 4' of the cap 4 are made *slightly longer* than the lips 9 on the catches 6, in order to give sufficient play for the lips 9 therein, and when the outwardly-bent portions 10 on said catch are used they act to enable the operator to press the catches

inwardly more easily and quickly." (Page 1, lines 90 to 97. Italics mine.)

Accordingly, there would be no difficulty in assembling the cap and shell without any relative rotary movement.

314 X Q. 70. Have you ever assembled the cap and sleeve members of an incandescent electric lamp socket after the cap member had been mounted in the husk of a chandelier?

A. Yes.

X Q. 71. Was this before or since the last previous hearing in this case?

A. Both. I have very frequently had occasion to disconnect electric lamp sockets. The only occasion I have examined and taken apart sockets since the last hearing for the purpose of verifying for my own satisfaction the statement which I made in X Q. 11 that I had examined sockets substantially like the Kenny patent No. 712,686. My recollection had been that the sockets in my own residence were substantially like the said Kenny patent and I have verified this by a subsequent examination.

X Q. 72. In your answer to X Q. 63 you analyze the remark filed in connection with the amendment of the Weber application for the patent in suit, dividing it into three parts, your statement being as folows:

"The remarks first refer to the Weber construction stating its characteristics which are not in the references. It then takes up the Oetting patent and specifically distinguishes from that; and finally takes up the Kenny reference and specifically distinguishes from that."

In that part of said remarks to which you refer by the words "and finally takes up the Kenny reference and specifically distinguishes from that," do you find any expresison like "simply inserting" or "simple telescopic movement" used to indicate that the Weber construction necessarily has a straight longitudinal movement as distinguished from the rotative movement of the Kenny reference, in assembling and interlocking the parts?

315 A. Not in that particular paragraph. In the first paragraph of the argument the Weber construction has been defined and the third paragraph calls attention to the distinguishing construction of Kenny.

X Q. 73. Yet if your theory as to the limitation of claim 4 to the feature of a straight longitudinal movement is correct, the differentiation of the Weber construction in this respect was of importance with regard to the Kenny patent but immaterial with regard to the Oetting patent?

A. No. It was important as to both Oetting and Kenny.

X Q. 74. Is it not a fact that so far as the feature of the straight longitudinal movement is concerned as distinguished from a rotative movement in assembling the parts the Weber construction and the Oetting construction are alike while both differ from the Kenny construction?

A. That is true so far as it goes. In addition it is the case that the assembling and locking in Weber is by a simple longitudinal telescopic movement only, which is not true either of Oetting or in Kenny, since Oetting in addition requires the inward manual pressing of the catches and Kenny requires rotary movement to effect the locking.

X Q. 75. Then there was no necessity, was there, for calling particular attention to the differences between a straight longitudinal movement and a rotative movement in order to distinguish between the Weber and Oetting construction?

A. No.

X Q. 76. Yet the language which you say so distinguishes with regard to the direction of movement is found in the remarks specifically directed to the Oetting patent and is not found in the remarks specifically directed to the Kenny patent. Is not that so?

A. Yes, with the qualification that the proposition of the simple insertion or the simple telescopic movement having been already twice mentioned in the remarks before the Kenny patent was
316 reached for specific mention, it was wholly unnecessary to say it over again and entirely unnecessary since the specific remarks with respect to Kenny called attention to the rotation and manifestly for the purpose of distinguishing from the simple insertion of Weber already twice mentioned in the remarks.

By Mr. Curtis: The answer is objected to as not responsive and as a mere argument and theorizing.

X Q. 77. Is not the statement in the last preceding question true without any qualification whatever in view of your own analysis of the remarks referred to into three parts, only two of which I have referred to in the question, that relating specifically to the Oetting patent and that relating specifically to the Kenny patent?

A. No.

X Q. 78. Does your answer mean that the language referred to in X Q. 76 is not found in the remarks specifically directed to the Oetting patent or does it mean that such language is found in the remarks specifically directed to the Kenny patent?

A. Neither. X Q. 76 implies that the language is to be found nowhere else in the argument except in the section specifically directed to the Oetting patent. It is found in the preliminary paragraph relating to the Weber structure with which the last paragraph is contrasted in dealing with the Kenny patent.

X Q. 79. Will you kindly point out in X Q. 76 any language of an exclusive nature which can fairly indicate that the question means that the matter referred to is found only in the paragraph or argument specifically directed to the Oetting patent?

A. If the question does not mean that I do not understand
317 what it does mean. As the question purports to relate to what I have referred to as the distinguishing features I understand that it does not correctly state my understanding.

X Q. 80. But you are unable to point out any word or words in that

question which give the implication you say the question gives to you?

A. Certainly. It is the entire question and all of the words thereof.

X Q. 81. Then I will divide the question. Do you find in the remarks specifically directed to the Oetting patent, having in mind your own apportionment of the entire remarks into three parts, the language which you say restricts the Weber construction to a straight longitudinal movement as distinguished from a rotative movement in assembling the parts?

A. This paragraph does not say anything about the rotary movement. It does, however, refer to the simple telescopic movement of the Weber structure which, as a matter of fact, does distinguish it from a structure requiring a rotary movement in locking.

By Mr. Curtis: Answer is objected to as evasive and not responsive to the question.

X Q. 82. The only expressions which you appear to have found in the remarks in connection with the amendment of claim 4 of the Weber patent which, in your opinion, do distinguish from the Weber construction, from a construction requiring a rotary movement in locking, are as I understand your testimony "simply inserting" and "simple telescopic movement." Is it not a fact that you find one of said expressions in that part of the remarks which you say is directed specifically to the Oetting patent, and that you do not find either of said expressions in that part of the remarks which you say is directed specifically to the Kenny patent?

A. Your premises are wrong. A most important distin-
318 guishing expression is "simply rotating" referred to in the last paragraph of the remarks. The three expressions occur respectively in the first, second and third paragraphs of the remarks.

X Q. 83. Then you understand the last paragraph of the remarks to be directed in part to showing in what different manner the Weber parts are assembled and interlocked from that in which the parts of the Kenny construction are assembled and interlocked with reference to the direction or character of the movement?

A. Yes.

X Q. 84. Kindly quote from the last paragraph of said remarks any reference which you find to the manner in which the parts of the Weber construction are assembled and interlocked?

A. There is no specific description in this last paragraph to the Weber construction. That had already been defined in the first two paragraphs. The third paragraph described the differing features of Kenny, one of which is the locking and unlocking by "simply rotating" one of the parts. Except for the purpose of distinguishing from Weber this description of Kenny would have been irrelevant.

X Q. 85. Is it not a fact that the last paragraph of said remarks is directed entirely to differentiating between the Weber and Kenny constructions solely with regard to their relative resistance to unlocking and to the manner in which they can be unlocked?

A. No.

X Q. 86. Kindly point out any language of said last paragraph

which draws a comparison between the Weber and Kenny constructions with regard to the manner in which the parts in each are assembled and caused to interlock?

A. This paragraph says that Kenny's device is adapted to unlock "by simply rotating one member upon another in the same
319 manner that the parts are locked together." There is here described the fact that Kenny locks his cap and shell together by rotating one upon the other. This is different from the previously described Weber construction wherein the cap and shell are united and locked together by simply inserting one part within the other or by a simple telescopic movement.

X Q. 87. Then you do not find in the last paragraph taken by itself the comparison called for in the last preceding question, do you?

A. Certainly not. The sole purpose of the last paragraph is to point out wherein the Kenny structure differs from the previously described structure of Weber.

By Mr. Curtis: The last part of the answer is objected to as not responsive, volunteered and argumentative.

X Q. 88. Is it your opinion that in the quotation from the specification of the Oetting patent which you made in answer to X Q. 69, it was that patentee's intention to make the slots 11 longer than the lips 9 for the purpose of making it unnecessary for the party assembling the parts of the case to bring the parts together with the lip in alignment with the slot?

A. No, of course not. He must have each lip in alignment with one of the slots. He facilitates this by making each slot longer than the lip so that proper register can be secured without any difficulty.

X Q. 89. Then you think he means to make them longer than would be otherwise necessary merely for a free fitting of the lip in the slot?

A. Yes, and to facilitate bringing them into register.

X Q. 90. Referring to the defendant's socket and for con-
320 venience of identification of parts to the drawing of the Freeman patent 927,344, does not the bent in portion 16 of the body of the sleeve form an inward projection?

A. To a very slight extent, it does.

X Q. 91. Is said bent portion 16 beveled or inclined toward the cap member of the case?

A. Yes.

X Q. 92. Does said bent portion 16 terminate abruptly at the aperture 15 in the sleeve?

A. No. It has ceased to be a bent in portion before the aperture is reached.

X Q. 93. But whether it is the bent in portion or whatever else it may be, the wall terminates abruptly at the opening 15, does it not?

A. No.

X Q. 94. How is the termination of the wall of the sleeve rendered otherwise than abrupt bordering said aperture 15?

A. That aperture is not the termination at all of the bent portion

16. On the contrary the base portion of the bent portion is in the vicinity of the hole 15, and the termination of the bent portion is at the point of the bent portion most remote from the hole.

X Q. 95. Does not that part of the body of the sleeve which borders the aperture 15 terminate abruptly thereat?

A. No.

X Q. 96. The interior wall of said opening is substantially perpendicular to the outer surface of the body of the sleeve, is it not?

A. Yes.

X Q. 97. Then the continuity of the body of the sleeve is interrupted perpendicularly at said opening, is it not?

A. Yes.

Adjourned until tomorrow, Thursday, March 10th, 1910, at 10 o'clock A. M.

321 Washington, D. C., March 10, 1910—10 A. M.

Met pursuant to adjournment.

Parties present as before.

X Q. 98. In view of your last answer I am unable to understand your answer to X Q. 95, in which you stated that that part of the body of the sleeve which borders the aperture 15 in the Freeman construction does not terminate abruptly thereat.

A. Because, that is not the termination of the bent portion, but the beginning. The termination is at the point where it is bent furthest from the general surface of the shell.

X Q. 99. I think you have misunderstood the scope of the question. I purposely avoided in X-Q. 95 a reference to the bent portion and confined the question to that part of the body of the sleeve which borders the aperture 15. Do I now correctly understand you that that part of the body of the sleeve which borders the aperture 15 does terminate abruptly thereat?

A. It does not. It does not terminate at all there. The terminations of the body of the sleeve are at its terminals, namely, its top and bottom edges.

X Q. 100. Again you have misconstrued the question. I did not ask you about the body of the sleeve but only about that part of the body of the sleeve which borders the aperture. Does this make it any clearer to you about what I am inquiring about?

A. No.

X Q. 101. At approximately what distance from the aperture 15 is the end of said bent portion 16 which is nearer to said aperture?

A. I have not the faintest idea what the question means.

X Q. 102. Then please state in your own words the extent
322 of said bent portion 16 with reference to the aperture 15 and to the key slot 11. How closely does it approach said aperture and slot?

A. That is very difficult to determine in the exhibits. The place where the bent portion extends farthest in toward the center of the shell is at the corner between the upper edge of the shell and

the slit 11. From here the bent portion gradually trends outwardly and finally merges into the general surfaces of the shell. The merging is so gradual that it is impossible for me to tell from an inspection of the exhibits just where the bend begins.

X Q. 103. The bent portion extends to a point very close to the aperture, however, does it not?

A. It begins to bend away from the general contour of the shell somewhere near the aperture or perhaps more accurately somewhere along a line which approaches somewhere near the aperture.

X Q. 104. Do I correctly understand then that the bent portion 16 of the defendant's sleeve extends from the key slot to some point or line in the vicinity of the aperture 15?

A. No. It extends from the corner between the key slot and the upper edge of the sleeve to a line where it merges into the body of the sleeve, and this line extends somewhere near the hole.

X Q. 105. Do you consider that the bent portion has only one termination, or that it terminates at the corner referred to and also at about the line referred to?

A. It has one termination. It has a beginning and an ending. The beginning is where it starts in its bend from the body of the shell. Its end or termination is where it departs farthest from the general contour of the shell which is at the corner between the upper edge of the shell and the key slot.

X Q. 106. I see I have been laboring under the misunderstanding that a thing has two ends, whereas in fact it has a beginning and an end.

323 Do you find in the cap of defendant's socket a recess formed by the angular space included between the inner surface of the flange 18 of the cap and the upper surface of the lug 19?

A. No.

X Q. 107. The angular space referred to, however, receives something which occupies said space when the cap and sleeve are assembled and locked together, does it not?

A. Not in any proper sense. What does happen when defendant's cap and sleeve are locked together is that one of the riveted studs on the cap enters the hole 15 in the shell, thereby locking the two together. To undertake to say that a recess is formed in the cap because the riveted lugs project inside thereof and that the space above one of the lugs is occupied by the portion of the metal of the sleeve which is above the hole or opening 15 is ingenious but not convincing.

X Q. 108. I have had no hope of convincing you as to any of my theories in this case. All I hope to do is to get your opinion as to structures and their functions to assist the court in understanding the questions in issue. Do you base your opinion expressed in your last answer upon the fact that the lug 19 happens to be a separate piece riveted upon the cap instead of being an integral part of the cap?

A. In part. Also because, obviously, the catch member or projection of the defendant's structure is one of the lugs or riveted studs 19, and the co-operating recess which is engaged by said catch stud is the locking hole in the sleeve.

X Q. 109. Be that as it may you do find, do you not, in the defendant's cap an angular space included between the vertical wall of the flange 18 and the upper side of the lug 19?

A. Yes.

X Q. 110. What occupies that space when the cap and sleeve are assembled and interlocked?

324 A. It it partly occupied by the portion of the sleeve which is above the locking hole 15.

X Q. 111. And the wall partly including said angular space formed by the lug 19 constitutes a shoulder or abutment which co-operates with the body of the sleeve where the same is interrupted by the opening 15, to so interlock the cap and sleeve that that they are intended to be separated only by forcible compresssion of the sleeve as by the hand?

A. The upper side of the lug 19 co-operates with the upper margin of the locking hole 15 in the sleeve to prevent separation except when the sleeve is forcibly compressed by the hand. If this is what the question means I answer it in the affirmative.

X Q. 112. In asembling the parts of defendant's socket when the cap and sleeve are fully applied to each other, they automatically interlock with a snap action, do they not?

A. Yes.

X Q. 113. Do you find anything in the German patent to Mix and Genest pertinent to the issues in this case which is not equally well shown in some of the United States patents to which you have referred?

A. Yes.

X Q. 114. Kindly explain?

A. The German patent shows inwardly extending projections or "noses" r on the shell or sleeve which enter oppositely placed grooves t of the insulating base. Hence, in this respect, the German patent is more pertinent than the U. S. Patent of Knowles No. 516,819, in which the inturned portions b' of the shell engage the corners of the insulating base. Perhaps, from the standpoint of substantial novelty there may not be much difference between Knowles and the German patent, since it would be entirely obvious to any one skilled in the art that the inturned or introverted portions b' of the sleeve or shell of Knowles could co-operate with

325 recesses in the periphery of the insulating base to prevent rotation thereof. Specifically, however, the German patent does have introverted or inturned portions of the shell or sleeve which do enter recesses in the periphery of the insulating base to prevent its rotation. Hence, in this particular the German patent has relevance not possessed by any of the U. S. patents.

X Q. 115. Do you read German?

A. Only with the aid of a lexicon.

X Q. 116. Then do I understand that for the purpose of informing yourself with regard to this German patent you have referred to and used the translation which defendant intends to offer in evidence herein?

A. Yes, except that I have identified some of the German words.

Cross-examination closed.

Redirect examination.

By Mr. Wolhaupter:

R. D. Q. 117. In X Q. 20 you are asked the following question:

"Is it not a fact that so far as is shown by the prior art considered by you, Weber was the first to bring together in the same incandescent electric lamp socket the two features, one constituting a sheet metal sleeve and cap adapted to automatically interlock with a snap action, and the other constituting an introverted portion of the wall of that sleeve adapted to occupy a recess in the enclosed base of insulating material to prevent relative rotation of said base and sleeve?"

326 To that question you answered in the affirmative.

I would ask you in the same connection if you find any claim in the Weber patent in suit responding to the combination as specified in the question referred to?

A. I do not. The subject matter recited in said cross-question is not the same as that of any claim of the Weber patent in suit.

R. D. Q. 118. Referring to the patent to Epstein No. 657,267, you were asked the following question:

"X Q. 32. In considering the Epstein patent have you considered as in any way material the fact that the catch member *l* is formed on a spring member D, and not on the wall of the box?"

To this question you answered in the affirmative.

In reference to the same subject I would ask you in what way you considered this fact material to the comparisons which you have made in your opinion?

A. It is material because in defendant's socket as in the Epstein patent the locking projection or catch member is a separate piece of metal from the part carrying it; whereas in the Weber patent in suit the projection or catch is integral with the part carrying it.

R. D. Q. 119. In X Q. 54 you were asked the question

"Is it your understanding that the construction set forth in the Weber patent in suit is adapted for assembling of its cap and sleeve members only by a straight longitudinal relative movement thereof?"

To which you replied:

"No. The Weber construction is, however, such that all
327 which is necessary in locking and unlocking is to move the catch and sleeve relatively to each other by a simple telescopic or straight longitudinal movement. Anything beyond that is unnecessary and superfluous."

In the same connection I would ask if you find anything in the specification of the patent in suit which indicates that this patent con-

templated a locking action between the cap and sleeve members which is accomplished by a relative rotation of said members?

A. There is nothing whatever in the Weber patent that suggests that there is ever to be a relative rotation between the cap and shell or that such a relative rotary movement would be of any possible use.

R. D. Q. 120. In this respect, that is, with reference to any necessity for a relative rotation of the cap and sleeve members to accomplish the locking action thereof, how does the Weber patent in suit compare with the disclosure in the Oetting patent?

A. The two are alike. Neither says anything about relative rotation.

R. D. Q. 121. In X Q. 59 you were interrogated regarding the amendatory matter inserted in claim 4 of the Weber patent in suit, that is, the amendment which required that one of the telescoping parts should have "a correspondingly located transverse slit and the wall on one side thereof displaced to form a projection beveled or inclined towards said recessed member and terminating abruptly at said slit."

In your answer to that question you stated:

"This amendment restricted the projection to a minutely specific construction which unmistakably distinguishes from the prior patents cited by the Patent Office."

328 How does this "minutely specific construction" compare with the structure you find in defendant's sockets?

A. This amendatory matter with reference to the specific construction of the projection was inserted after rejection upon the Oetting and Kenny patents. In Kenny the cap carries an inwardly extending radial projection, for instance, just as defendant's cap has an inwardly projecting radial projection. This projection on the cap cooperates with a locking hole in the shell as defendant's cap projection co-operates with a locking hole. To distinguish from Kenny the claim was amended to specify the exact construction shown. In accordance with the claim as amended one of the parts (sleeve or cap) has a "transverse slit" and "the wall on one side" of this transverse slit is "displaced to form a projection beveled or inclined toward "the other member (cap or sleeve) carrying the locking recess, and this wall of the slit constituting the beveled or inclined projection is one "terminating abruptly at said slit," the other end of said projection merging into and becoming an integral part of the member carrying it.

The abrupt termination at the slit constitutes the shoulder which interlocks with the recess in the other member (cap or shell) and it is this abrupt terminating end which does the interlocking and which is the part of the projection which projects farthest from the surface of the member carrying it. There is nothing of the sort in defendant's socket. Defendant's interlocking projection is the separate stud projecting radially inward from the cap. Ignoring this, and looking at defendant's sleeve, there is no interlocking projection. On the contrary, the interlocking part of defendant's sleeve is the locking hole whose inner margin is the immediate locking part

and is not a projection at all. Much less, is this hole a "transverse slit" whose displaced wall at the slit constitutes a locking pro-
329 jection. Defendant's bent corner (indicated at 16 in the Freeman patent No. 927,344) has no function in performing the locking and preventing the separation of cap and shell when interlocked. The purpose of this bent corner is to get out of the way of the locking projection on cap when the cap is slipped over the shell, so that the interlocking projection on the cap rides upon this bent corner and presses the shell inwardly at this place so that when the cap is subsequently turned the locking projection can ride into the locking hole.

R. D. Q. 122. In X Q. 90 you were asked the following question:

"Referring to the defendant's socket and for convenience of identification of parts, to the drawing of the Freeman patent, 927,344, does not the bent in portion 16 of the body of the sleeve form an inward projection?"

In your last answer you say "Defendant's bent corner (indicated at 16 in the Freeman patent No. 927,344) has no function in performing the locking and preventing the separation of cap and shell when interlocked."

I would, therefore, ask you to state whether you find anything in the Weber patent in suit having a corresponding function to this bent corner 16, shown in the Freeman patent referred to, and also included in defendant's socket?

A. Nothing whatever.

R. D. Q. 123. In your cross-examination you were asked a number of questions as to details of structure involved in several of the patents referred to herein, so for purposes of illustration and convenience in comparing the patents and understanding your opinion
I have had prepared under my personal direction a series of
330 enlarged drawings illustrative respectively of the following patents, viz:

U. S. Patent to Freeman, 927,344, dated July 6, 1909.
U. S. Patent to Oetting, 642,825, dated Feb. 6, 1900.
U. S. Patent to Kenney, 712,686, dated Nov. 4, 1902.
U. S. Patent to Weber, 743,206, dated Nov. 3, 1903.
German patent to Mix & Genest, No. 106,898.

Please compare these enlarged drawings with the several patents recited and state whether you find them to be true and correct reproductions and enlargements of the drawings forming a part of the said patents?

A. I have examined and compared the series of enlarged illustrative drawings referred to in your question and find the same to correctly illustrate my understanding of the construction disclosed and described in the several patents referred to. These drawings illustrate the structural features and functions which I have emphasized in my cross-examination as being found in the said several patents, to wit: U. S. Patent to Freeman, 927,344, dated July 6, 1909; U. S. Patent to Oetting, 642,825, dated Feb. 6, 1900; U. S. Patent to Kenney, 712,686, dated Nov. 4, 1902; U. S. Patent to Weber, 743,206, dated Nov. 3, 1903, and German patent to Mix and Genest, 106,898.

Counsel for defendant here offers in evidence, as illustrative exhibits, said illustrative drawings above referred to by the witness in his last answer, and the Examiner is requested to mark the same, and the same are marked as follows:

331 "Defendant's Exhibit, Illustrative Drawing of Freeman Patent 927,344."

"Defendant's Exhibit, Illustrative Drawing of Oetting Patent 642,825."

"Defendant's Exhibit, Illustrative Drawing of Kenney Patent 712,686."

"Defendant's Exhibit, Illustrative Drawing of Weber's Patent 743,206."

"Defendant's Exhibit, Illustrative Drawing of Mix & Genest German Patent 106,898."

By Mr. Curtis: Counsel for complainant objects to each of said illustrative drawings as not the best evidence and as not properly proved or identified with the exhibits which they purport to represent.

Adjourned to meet by agreement.

Washington, D. C., March 29, 1911—10:30 A. M.

Met pursuant to agreement of counsel.

Present: Mr. Wm. N. Cromwell, on behalf of the defendant; and Mr. Frank C. Curtis, on behalf of complainant.

It is hereby stipulated and agreed by and between counsel, that the witness Arthur S. Browne, may consider and discuss in his redirect testimony, with the same force and effect, as though he were recalled, de novo, the following British patents:

No. 6781, April 2, 1895, The Edison and Swan United Electric Light Company, Ltd., and Charles Faraday Proctor; and

No. 11714, May 11, 1897, Henry Charles Gover and Charles Faraday Proctor.

332 By Mr. Cromwell:

R. D. Q. 124. In view of the above stipulation I now direct your attention to the two British patents referred to therein, and ask you to compare the same with the Weber patent in suit, and to state the result of such comparison?

A. These two British patents are pertinent in connection with the subject matter of claims 1, 2 and 3, of the Weber patent in suit, and particularly in connection with the means employed by Weber for preventing a relative rotative movement between the sleeve, base and socket. For this purpose Weber has an inwardly bent or introverted tongue (or tongues) on the sleeve, as shown at 22, in Fig. 3, which enters a groove or recess 23, in the insulating base 24.

These features are shown in both of the British patents mentioned in the stipulation.

As shown in the British patent No. 6781 of 1895, the sheet metal sleeve or casing G "has its two opposite sides indented as shown at H" (line 18), this being illustrated in Fig. 2 of the drawings. These inwardly bent or introverted tongues fit in grooves in the insulated base A, as described at line 17, and hence relative rotation between the base and the sleeve is prevented.

A similar construction is shown in the British patent No. 11714, of 1897, which says:

"The two sides of the socket are indented so as to form internal protuberances *p* engaging in the grooves *i* of the insulator to prevent it from turning. A ring R is screwed on the socket to hold a globe or the like." (Lines 16 to 18.)

These two British patents show these characteristics more clearly than does the German patent to Mix and Genest No. 106,898,
333 April 9, 1899, to which I have referred in my direct testimony. Accordingly, wherever I have mentioned that German patent in connection with the subject matter of the claims of the Weber patent in suit, I should like to have it considered that I also refer to these two British patents as having the same force and effect.

R. D. Q. 125. Will you please state under what circumstances the two British patents referred to in the last question and answer came to your observation?

A. I found these patents myself while making an investigation in connection with another patent, namely, the patent to Perkins, No. 626,927, dated June 13, 1899, upon which a suit had been brought against a party for whom I was retained. In that suit some British patents were relied upon which showed some features characteristic of British lamp sockets with which I was not familiar. Accordingly, I made a search among British patents with respect to that subject matter and in so doing I ran across the two British patents now under discussion.

Counsel for defendant here offers in evidence the two British patents considered by the witness in R. D. Qs. 124 and 125, and requests the Examiner to receive the same to be marked respectively:

"Defendant's Exhibit, British Patent to The Edison & Swan United Electric Light Co., Ltd., and Charles Faraday Proctor, No. 6781, Dated April 2, 1895"; and

"Defendant's Exhibit, British Patent to Henry Charles Gover and Charles Faraday Proctor, No. 11,714, Dated May 11, 1897."

Recross-examination.

By Mr. Curtis:

Each of the exhibits just offered in evidence if intended
334 for purposes of anticipation is objected to upon the ground that it is not set up in the answer and the statutory notice thereof has not been given. No objection is made to the exhibits on

account of the same being uncertified copies, said exhibits, however, being subject to correction upon comparison with original or certified copies.

R. X Q. 126. Referring to the Edison & Swan British patent, which you have just considered, is it not a fact that such a construction as is shown in that patent necessitates the use of some element in addition to the sleeve and cap themselves to hold the sleeve and cap together, such, for example, as the clamping ring shown in cross section in Fig. 1?

A. Yes.

R. X Q. 127. As I understand this Edison & Swan construction, to complete the assembling and locking together of the parts it is necessary to first bring the cap and sleeve into assembled position with the introverted tongues referred to by you in the grooves in the insulated base and then to screw the clamping ring tight to hold the parts in assembled position. Is that as you understand?

A. Yes.

R. X Q. 128. Referring to the British patent to Glover and Farraday, No. 11,714, of 1897, how do you understand that the sleeve is assembled and locked in connection with the cap?

A. The cap C is screwed on to the socket S as described at lines 13 and 14.

The ring R has nothing to do with securing the socket and cap together, being simply a globe holder. If there is no globe to be supported it could be removed altogether, without affecting the socket as a whole.

R. X Q. 129. In the modern socket adapted to be applied
335 to a fixture or chandelier it is a fact is it not that in wiring the socket the cap is mounted upon the chandelier or fixture and fastened thereto, then the insulated base is connected to the wires which enter through the cap and then the sleeve is applied covering the insulating base and is connected to the cap?

A. Yes.

R. X Q. 130. Could a socket such as shown in this British patent No. 11,714, of 1897, be so attached to a fixture and so wired and assembled?

A. No.

R. X Q. 131. What is the function or purpose of the beveled feature of the parts 14 in the Weber patent in suit?

A. The purpose of these projections 14 is to co-operate with apertures 13 in the cap 2 when the parts are telescopically applied to each other. The sleeve 1 is compressible and the said projections 14 are beveled or inclined to facilitate the telescopic application of the cap. When the edge of the cap is moved relatively to the sleeve it encounters these beveled projections and said bevels then act as wedges to compress the sleeve and then when the apertures 13 of the cap register with the projections said projections spring outwardly and hence automatically lock with a snap action. This is described beginning at line 94, page 1, of Weber's specification, and ending at line 3, page 2.

R. X Q. 132. In what way have you compared the exhibits "Illustrative Drawing of Weber Patent No. 743,206"; "Illustrative Drawing of Kenney Patent 712,686"; "Illustrative Drawing
336 of German Patent 106,898"; "Illustrative Drawing, Freeman Patent 927,344"; "Illustrative Drawing, Oetting Patent 642,825," with the several devices or patent drawings which they purport to represent?

A. I have really forgotten the matter because it is more than a year ago that I testified in regard to these enlarged drawings. What I did in the way of comparison I have now entirely forgotten. I do not recall whether I verified any proportions or not. I may simply have looked at the enlarged drawings side by side with the originals and have thus reached the conclusion that the enlarged drawings were correct representations of the originals.

Counsel for complainant now repeats the objection previously made to said illustrative exhibits.

R. X Q. 133. Do you know of any incandescent electric lamp sockets now being manufactured and marketed in this country, in which the sleeve and cup are not adapted to automatically interlock with a snap action?

By Mr. Cromwell: Defendant's counsel objects to this question as being incompetent recross-examination, and the further objection is urged that the witness is incompetent to answer the question in the form in which it is put.

A. I am not in touch with what is being done at the present day in the manufacture of commercial lamp sockets. Certainly within the last year I have seen and examined in practical use lamp
337 sockets which fit together otherwise than by a snap action, but whether they are to-day being manufactured, I do not know.

Recross-examination closed.
Deposition closed.

ARTHUR S. BROWNE.

Adjourned subject to agreement.

ERNEST SZEMELENYI, being first duly sworn, deposes and says in answer to interrogatories propounded to him by counsel as follows:

By Mr. Wolhaupter:

Question 1. Please state your name, age, residence and occupation?

Answer. Ernest Szemelenyi; 57; Washington, D. C.; translator.

Q. 2. How long have you been engaged in the occupation of a translator of languages?

A. Twenty-nine years.

Q. 3. For what languages have you qualified yourself as a translator?

A. I have translated as many as twenty-three foreign languages

while official translator in the foreign library of the United States Patent Office; I was examined for six languages when making application for that position.

Q. 4. What were the six languages in which you were examined when making application for the position referred to in your last answer?

338 A. Latin, French, Italian, Spanish, German and Norwegian.

Q. 5. How long did you hold the position of official translator in the foreign library of the U. S. Patent Office?

A. Twenty-eight years.

Q. 9. Have you had any technical education?

A. Yes, I am a graduate of the Harvard School of Mines.

Q. 10. What were your duties as official translator in the foreign library of the United States Patent Office?

A. Very varied; make translations from all orders on the outside or for the Examiners; make oral translations for the Examiners; to distribute copies of foreign patents to the Examiners, and general library work.

Q. 11. I call your attention to an Exhibit filed in this case which has been marked for identification "Defendant's Exhibit, Copy and Enlgish Translation German Patent 166,898" and would ask you to examine the English translation forming a part of this exhibit and state what, if anything, you know regarding that translation?

A. I made that translation myself.

Q. 12. I would ask you to now compare the paragraph which has been marked X in black ink on the printed German copy of the specification forming a part of the Exhibit referred to with the corresponding paragraph in the English translation which is likewise marked X in black ink, and state if you find the English translation to be an accurate translation of the German paragraph referred to?

A. This is a correct translation.

Cross-examination.

By Mr. Curtis:

X Q. 13. Is this translation which you have made a literal translation or a free translation?

339 A. Well, it is rather literal than otherwise.

X Q. 14. Have you any technical knowledge of the art relating to incandescent electric light sockets?

By Mr. Wolhaupter: Objected to as immaterial.

A. I have to the extent of knowing what the words mean in the different languages connected with it.

X Q. 15. Have you such technical knowledge derived from familiarity with the lamp socket structures themselves?

A. I have sufficiently to understand that paragraph perfectly well.

X Q. 16. I have not criticized your translation of the paragraph referred to. I simply wish to know what knowledge you have about lamp sockets which you have derived from the sockets themselves as articles in use?

A. I have never been in the business of manufacturing sockets if you want that kind of knowledge.

X Q. 17. Have you become familiar with the construction and functions of incandescent electric lamp sockets at all by actual inspection of and familiarity with the structures themselves?

By Mr. Wolhaupter: Objected to as immaterial.

A. Not as an expert in that particular branch.

X Q. 18. Have you to any extent?

Same objection.

A. As such things have happened to come up in my professional business.

X Q. 19. Have you ever found it necessary in your pro-
340 fessional business or have you ever in such business taken apart or assembled incandescent electric lamp sockets or familiarized yourself with their actual construction and functions?

Same objection.

A. I have never found it necessary so to do. I have done so.

Cross-examination closed.

ERNEST SZEMELENYI.

Counsel for defendant here offers in evidence exhibit previously marked for identification as "Defendant's Exhibit, Copy and English Translation German Patent 106,898."

By Mr. Curtis: Objected to as to the patent itself as immaterial and as to the translation as not sufficiently proved, and that the translator is not shown to have the qualifications necessary to make a proper translation of the text of said German patent.

341 United States Circuit Court, District of New Jersey.

In Equity.

WEBER ELECTRIC COMPANY, Complainant,

vs.

E. H. FREEMAN ELECTRIC COMPANY, Defendant.

On Patent No. 743,206.

Notary's Certificate.

STATE OF OHIO,
County of Lucas, ss:

I, Solon T. Klotz, Notary Public in and for above county, hereby certify that the above witness, Frank H. Chapman, was by me duly sworn to testify the whole truth and nothing but the truth; that his deposition was reduced to writing by Mr. Sullivan, and when completed read over to said witness and subscribed by him in my presence; that said deposition was taken at the office of Solon T. Klotz on the 15th day of July, 1913; that the parties were represented at the taking of said deposition by their respective counsel, as set forth; that the several exhibits recited were offered in evidence and marked as specially noted in the foregoing deposition; and that I am not counsel or relative of either party or otherwise interested in the event of this suit.

In testimony whereof, I have hereunto set my hand and official seal this 30th day of July, 1913.

[SEAL.] SOLON T. KLOTZ,
Notary Public, Lucas County, Ohio.

342 United States District Court, District of New Jersey.

In Equity.

WEBER ELECTRIC CO., Complainant,

vs.

E. H. FREEMAN ELECTRIC CO., Defendant.

On Patent No. 743,206.

Proofs for final hearing taken on behalf of the defendant, pursuant to agreement of counsel, at the office of Solon T. Klotz, The Nicholas Bldg., Toledo, Ohio, commencing on Tuesday, July 15th, A. D. 1913, at 10 A. M. before Solon T. Klotz, Notary Public in and for the County of Lucas and State of Ohio, acting as Special Examiner by consent.

Appearances: Frank C. Curtis, Esq., for the Complainant. Wm N. Cromwell, Esq., for the Defendant.

FRANK H. CHAPMAN, a witness called on behalf of the defendant, being duly sworn, by the Notary, testified as follows:

Direct examination.

By Mr. Cromwell.

Question 1. State your name, age, and residence and occupation?
Answer. Frank H. Chapman; 46; Toledo, Ohio; Secretary-Treasurer of the Yost Electric Manufacturing Company.

343 Q. 2. How long have you been secretary-treasurer of the Yost Electric Mfg. Co.?

A. I have been secretary since February, 1903, and treasurer for approximately three years. I cannot give it to you exactly.

Q. 3. What line of products does the Yost Electric Mfg. Co. produce, or make?

A. Principally incandescent lamp sockets.

Q. 4. When did you first become connected with the Yost Electric Mfg. Company?

A. I first became actively connected in February, 1903.

Q. 5. What circumstances led you to connect yourself with this company in February, 1903?

A. I was seeking a permanent connection with some manufacturing enterprise, and was invited to investigate the Yost Electric Manufacturing Company with a view to investing in the stock and decided to make the investment after investigating the incandescent lamp socket business, and learning that the Yost Company were making and marketing a socket embodying an entirely new and distinctive feature—that of eliminating the use of screws for uniting the shell and cap by substituting what is now universally known as the snap lock, upon which their superintendent had secured patents, which were assigned to and became the property of the Company. It was this special feature which appealed to me sufficiently strong to induce me to make the investment.

Q. 6. In your last answer you referred to the superintendent of the Yost Company,—and I now ask you to state his name.

A. Mr. Owen E. Kenney.

Q. 7. You also refer in your answer to question five to certain patents which Mr. Kenney had obtained; please state whether or not you became familiar with those patents?

A. I did.

344 Q. 8. There have been introduced in evidence in this case on behalf of the defendant two patents to one Owen E. Kenney, of Toledo, Ohio, the numbers of the same being 712,685 and 712,686. I show these particular exhibits to you, and ask you to examine the same and to state whether or not you recognize these patents as those referred to in your answer to question five?

A. These are the patents to which I referred in answering the previous question.

Q. 9. I observe from the face of these patents that they were assigned to the Yost Miller Company, of Toledo, Ohio, please state what if any connection existed between the Yost Miller Company and the Yost Electric Mfg. Company?

A. The Yost Electric Mfg. Company was a new company incorporated and given a charter December, 1902, and was organized to take over the Yost Miller Company which was its immediate predecessor, on a reorganization basis.

Q. 10. Please state whether or not the Yost Electric Mfg. Company is now the owner of these two Kenney Patents?

A. It is.

Q. 11. At the time you became associated with the Yost Electric Mfg. Company in February, 1903, what was the character of the fastening means employed for holding the caps and shells of its incandescent sockets together, and if you have anything in your possession which will indicate the form of fastening, employed at that time, I will ask you to produce the same?

A. The fastening was the snap lock made in accordance with the Kenney Patents of November, 1902. I have in my possession a small booklet issued by the Company in January, 1903, illustrating the construction of the socket made at that time by cuts and the text explaining the nature of the construction. The cuts
345 shown on pages four, six and seven clearly show the construction used.

Q. 12. If you can produce one of the sockets embodying the fastening means in question, which fastening means was being used by the Yost Company in February, 1903, please do so?

A. I have here a casing composed of a shell and cap, of the keyless socket type, and find embodied in this the construction used with one exception, of having one of the interior radial studs reversed and brought outside. I have also a casing designed for a key socket, showing the construction as used at the time I first became connected with the company, the principal of the lock being the same, but this casing is of a type manufactured a short while after my first connection with the company, and in it we use two exterior radial studs engaging two bayonet slots instead of one stud and one slot, as used in the early part of 1903. This change is merely a refinement giving the advantage of enabling the person installing the socket to turn the shell to a position diametrically opposite in the event that the key might not come into a convenient location when screwed onto the nozzle of the fixture.

Mr. Cromwell: The booklet referred to by the witness in his answer to Q. 11 is marked for identification as "Defendant's Exhibit, Yost Booklet," and the two shell and cap structures referred to in answer to Q. 11 are also marked respectively for identification as "Defendant's Exhibit, Yost Socket No. 1," and "Defendant's Exhibit, Yost Socket No. 2."

Q. 13. I notice that the two cap and shell structures designated as Defendant's exhibits, "Yost Sockets Nos. 1 and 2" do not
346 contain the porcelain blocks or fillings. Confining the inquiry to the snap lock feature of these exhibits, please state whether or not there is any difference between the same as exemplified by these exhibits, and what was embodied in the Yost Sockets, manufactured and sold by the Yost Company, when you became associated with the latter, in February, 1903?

A. There is no difference excepting in minor detail, as explained in answer to the preceding question.

Q. 14. To what extent did the Yost Mfg. Company make sockets embodying these snap fasteners?

A. They were made in commercial quantities commencing in January, 1903, and during that year a quantity approximating a half million was manufactured and sold and thereafter the number manufactured and sold gradually increased and they have been marketed in quantities aggregating several million.

Q. 15. In your last answer you refer to January, 1903, as the time when these sockets with the snap fastening were commenced to be manufactured. And you have also testified that you did not become associated with the company actively until February, 1903. Please state the source of your information as to the commencing of the manufacture in January, 1903?

A. At about the holiday season of 1902 I first learned of the Yost business being reorganized and I commenced investigating the proposition, and am familiar with what was done by the company in January, 1903, although I did not make my first purchase of stock and pay for same until February 11th, 1903.

Q. 16. If I understand your testimony correctly, you have said that when you bought into the Yost Mfg. Company in February, 1903, there was no incandescent socket on the market with
347 a snap lock, between the shell and the cap of the same—when to your personal knowledge did such a snap lock construction first appear on the market thereafter?

A. Our Yost Socket was the first socket marketed embodying the snap lock feature, and other snap lock sockets made and introduced by competitors were not known to us until we met them in competition about—approximately two years after ours were introduced.

Q. 17. State whether or not the Yost Mfg. Company is still operating under the two Kenney Patents, which you have considered in your preceding testimony?

A. It is.

Cross-examination.

By Mr. Curtis:

X Q. 18. Can you state approximately the number of sockets marketed by the Yost Electric Mfg. Company during each of the years 1903, 1904, 1905, 1906, 1907 and 1908?

A. Approximately a half million in 1903, three quarters of a million in 1904, and about a million in 1905, and gradually in-

reased, continuing thereafter up to and including 1908 and since hen.

X Q. 19. What would you say your output was in 1908?

A. Approximately a million and a half.

X Q. 20. How did the prices at which you sold sockets in 1903 nd '04 compare with the prices at which your competitors sold ockets?

Defendant objects to this question for the reason that it is pri-narily not within the purview of the direct examination of the vitness and for the further reason that it is wholly immaterial and rrelevant, and the question of the comparative price of sale having othing to do with the issue.

48 A. We sold sockets at prices satisfactory to us, possibly a trifle under the prices of the trust or association manu-acturers, but not under the prices quoted by other independent nanufacturers, such as Weber and Pass and Seymour.

X Q. 21. The Weber Company was not marketing sockets in 1903 nd the early part of '04, was it?

A. Not to my knowledge, but I construed your question to include he entire period from 1903 to 1908.

X Q. 22. Are you familiar with all the changes, in both the shell onstruction and the interior mechanism of Yost sockets, since you ave been connected with the company?

A. I am.

X Q. 23. Without going into the details of the changes, will you lease state how many times you have found occasion to change the nterior construction of your sockets—of your switch sockets?

Defendant's counsel objects to this question for the reason that he issues of this case are confined essentially to the snap lock fasten-ng; whether or not the internal construction of the sockets has been hanged has absolutely no bearing upon the issue. The question is herefore immaterial and irrelevant, and the further objection is rged that it is improper cross-examination.

A. Changes have been made, frequently, not of necessity, but ong the line of refinement and improvement, and at times look-g towards a reduction in manufacturing cost.

X Q. 24. Do you mean to say that you have never changed the terior construction as a matter of necessity?

9 Defendant's counsel objects to this question for the reason that the issue of this case is confined essentially to the snap k fastening whether or not the internal construction of the sockets s been changed has absolutely no bearing whatever upon the issue. he question is therefore immaterial and irrelevant, and the further jection is urged that it is improper cross-examination.

A. To that I will not be positive.

X Q. 25. Please state all the changes which have been made in

the shell construction of the Yost Sockets since you have been connected with the company?

Same objection.

A. There have been changes made from time to time in design; changes in size, in weight or gauge of material, in the ornamentation of the shell by an addition of a bead at the upper end of the shell—not used by other manufacturers—in the size and shape of the slots and edges and openings, and some minor changes—made from time to time as considered advisable.

X Q. 26. Which of these exhibits to which you have referred shows the shell construction as you first had it?

A. I will say that the one shown in the cut in the booklet introduced in evidence shows the earliest type used commercially.

X Q. 27. In order that we may be clear on that, state how the posts were in that?

Same objection.

A. The cuts of the key socket in the booklet in evidence, pages six and seven, show the original commercial socket in which
350 the snap lock feature was used. Two interior radial studs in the cap, with two slots and adjacent openings in conjunction with one outside stud, engaging the bayonet slot. The Sockets introduced in evidence are similar in construction, excepting using two pins in connection with two bayonet slots, instead of the one.

X Q. 28. In the first socket shown in this booklet, the interior studs to which you refer, were, as I understand it, similar to the smallest of the interior studs of the Exhibit Yost Socket No. 1, is that correct?

A. That is correct.

X Q. 29. Was the change from the sockets shown in the booklet to that shown in defendant's Exhibit Yost Socket No. 1, the next change made in the shell construction of your socket?

A. I know of no other change having intervened.

X Q. 30. About when was this change made to the construction of Yost Socket No. 1?

A. Some time in 1903. About the middle of the year, or during the summer.

X Q. 31. At whose suggestion was this change made?

A. It was adopted after the study of the changes by Mr. Kenney, Supt.; Mr. Yost, Gen'l Mgr., and myself as Secretary of the Yost Company.

X Q. 32. Did you find this construction of Yost Socket No. 1 to hold more securely than the socket shown in the booklet?

A. No, only as the outside pin was used as an index to show whether the turn had been made to securely lock the shell and cap.

X Q. 33. Was the next change made in the Yost socket, that to the construction shown in defendant's Exhibit Yost Socket No. 2?

A. These two were made at the same time, one being of the keyless and the other of the key type.

351 X Q. 34. Does the defendant's Exhibit Yost Socket No. 2 show the construction of your socket as it is now made, with reference to the shell construction?

Defendant's counsel objects to this question as wholly improper, primarily because it is without the scope of the direct examination, and for the further reason that whatever changes might have been made subsequent to the changes exemplified by defendant's Exhibit Yost Sockets Nos. 1 and 2, have no bearing upon the issue of this case. Defendant's counsel understands that the complainant in this case represented by Mr. Curtis, counsel for the complainant, in the present case, has brought a suit against one of the customers of the Yost Electric Mfg. Company, which suit is based upon the same Weber Patent, which forms the basis of the present suit. If, therefore, counsel for complainant herein, desires to establish in conjunction with his suit against the customer of the Yost Electric Mfg. Company, any series of changes, other than what has been inquired about on Direct Examination of this witness, it is proper for him to pursue the line of examination in that suit, and not in this, particularly in view of the fact that the present witness is the secretary-treasurer of the Yost Electric Mfg. Company, and may therefore be called upon to testify in the suit brought by the present complainant, against the customer of the Yost Electric Mfg. Company. Under the circumstances, counsel for the defendant herein, instructs the witness that if he regards it as against the interest of his company to answer, he may decline to do so.

352 Mr. Curtis: It is submitted that the statements of the counsel for defendant of themselves, show the pertinency and propriety of the present question, and the attempt to instruct the witness is objected to as entirely improper and uncalled for. Counsel insists upon an answer to the question.

A. The sockets in evidence are not identical with the sockets being manufactured by the Yost Company at this time.

X Q. 35. Is the statement made by counsel for defendant true, that the Weber Electric Company, has brought suit, upon this Weber Patent, number 743,206, against one of your customers, for alleged infringement by the sale of sockets made by your company?

Same objection and instruction.

Counsel for the defendant further states: "The question which has just been propounded, is objected to for the reasons last placed on record, by defendant's counsel, and the instructions are repeated. Inasmuch as Mr. Curtis represents the interests in the Weber Patent, he ought of himself, to know whether the suit in question has been brought.

Mr. Curtis: Counsel for the complainant regrets to have to again call the attention of the Court to the impropriety of the remarks which have been placed on record by counsel for the defendant, and it will be perfectly apparent that if counsel for the defendant is not on the stand and cannot be cross-examined, it is perfectly proper for

counsel for complainant to place before the Court the facts in regard to the matter stated by counsel for defendant.

353 A. I have been so informed.

X Q. 36. Hasn't your company taken over the defense of that suit, and has the management of it?

Same objection and instruction as to Q. 34.

A. We may not have formally appeared in any action up to the present time, but it is our intention to so do, if it has not already been done.

At this point counsel for complainant desires it to be noted that Mr. Wilbur A. Owen, who is counsel for Frank E. Greis, in a suit brought by the Weber Electric Company, upon this patent, 743,205, is here present, and has been present for a considerable part of the cross-examination of this witness. Counsel for Complainant does not make this statement, by way of complaint, but merely that he thinks the court entitled to the information, as Mr. Owen declines to formally appear. Without attempting to argue the case at this time, counsel for the complainant insists upon his right to bring out any and all facts, which would have any bearing upon the interest or bias of the witness, or the credibility of his testimony, or which would have a bearing upon the efficiency and character of the constructions which have been produced here and testified to by this witness, and has not gone further than this in any of his questions.

Defendant's counsel states that Mr. Owen has not been present for "a considerable part of the cross-examination of this witness," and makes this observation so that the Court may be correctly in-
354 formed as to the situation. The testimony is taken in the office of Mr. Solon T. Klotz, a Notary Public, and in view of the criticism that Mr. Curtis has seen fit to place upon the record, it is now here noted that Mr. Owen withdraws.

X Q. 37. Mr. Curtis, do you mean to say that you do not know that your counsel, Mr. Owen, has had more or less correspondence with me in regard to this Greis suit on your behalf, and openly stating that it was on your behalf?

Mr. Cromwell. In view of the statement placed upon the record by defendant's counsel, as to the impropriety of this line of cross-examination, the witness is instructed not to answer the question.

A. Any such matters were turned over to Mr. Owen, by us, for such action as he might desire to take, and on all those details, I am not personally informed.

X Q. 38. Then you accept the responsibility on behalf of your company for what he might have done—do you?

Same objection and instruction.

A. I do.

X Q. 39. Up to what time did the Yost Company continue to make sockets with the outside port like defendant's Exhibit Yost Socket No. 2?

Same objection and instruction.

A. It is impossible for me to answer without access to our
355 records.

X Q. 40. Can you approximate it?

Same objection and instruction.

A. Not very well, it would be a matter of guess.

X Q. 41. I show you a socket bearing the name Yost, and ask you if your Company has made sockets like that, as to the shell construction?

Same objection and instruction.

A. We have.

Defendant's counsel further objects to the question just put for the reason that it is wholly improper Cross-Examination, and being out of the line of the Direct; serving no useful purpose in the present suit and the determination of its issue, and the witness is instructed that he need not answer the question.

Counsel for complainant desires to most emphatically resent the continued interference with the witness under Cross-Examination and the repeated instructions to the witness,—or suggestions,—to the witness, not to answer.

X Q. 42. When did you commence to make sockets like that; the exhibit which you have just identified, which I now mark for identification Complainant's Exhibit Yost Socket No. 3?

Same objection and instruction.

A. That I could not answer without some considerable work in looking up our records.

356 X Q. 43. Have you made them for a couple of years?

Same objection and instruction.

A. As previously stated, such questions, if answered would be merely guess on my part, and I prefer not to be positive.

X Q. 44. Well at any rate it was later than your Yost Socket No. 2, here in evidence?

Same objection and instruction.

A. Yes.

X Q. 45. Does this Complainant's Exhibit Yost Socket No. 3 show the shell construction which you are now marketing?

Same objection and instruction.

A. It does not.

X Q. 46. I show you another socket, bearing the name "Yost,"

marked for identification, Complainant's Exhibit Yost Socket No. 4. Does this show the shell construction of the socket you are now marketing?

Same objection and instruction.

A. Practically so.

X Q. 47. Can you state how long this construction, like Complainant's Exhibit No. 4 has been on the market?

Same objection and instruction.

357 A. No, I cannot state positively when that change was made.

X Q. 48. It is a quite recent change, isn't it?

Same objection and instruction.

A. That depends on what you mean by "recent."

X Q. 49. Would you say it was made within a year past?

Same objection and instruction.

A. I think it was prior to a year, and less than two years.

X Q. 50. Did the Weber Electric Company ever bring any suits against you or any of your customers, as far as you know, prior to your adoption of the shell construction, shown in Complainant's Exhibit Yost Socket No. 3?

Same objection and instruction.

A. The Weber Company has brought only one suit, and that was against the customer named Greis—and personally I am not positive as to what form of socket is complained of in this Greis suit.

X Q. 51. Did you not consult with Mr. Owen, your counsel, with respect to a socket of the same shell construction as this Complainant's Exhibit Yost Socket No. 3, which I requested Mr. Owen to stipulate it had been sold by the defendant Frank L. Greis, as the basis of a suit against him?

Same objection and instruction.

A. I have consulted with Mr. Owen on all the various con-
358 structions, and such matters have been left entirely to his judgment.

X Q. 52. You have no recollection of discussing with Mr. Owen, the question whether or not he should agree with me, that Greis had sold sockets like this Yost Socket No. 3, prior to the institution of the suit against Greis?

Same objection and instruction.

A. Questions of that nature are taken up almost daily between Mr. Owen and myself, and I will not state positively that he did not bring that to my attention, but even if he did not do so, his action in the matter would be entirely satisfactory, and we would assume the responsibility.

X Q. 53. What was the purpose of your change from the construction Yost Socket No. 2 to that of Yost Socket No. 3?

Same objection and instruction.

A. Reduction in cost.

X Q. 54. What was the object of the change made from Yost Socket No. 3 to Yost Socket No. 4,—in construction?

Same objection and instruction.

A. We considered it an improvement.

X Q. 55. In what way?

Same objection and instruction.

A. In the ease with which it locks and unlocks. We found certain objections to it, and we have made still further changes since then.

359 X Q. 56. Are you willing to submit a specimen of a socket, showing these further changes?

Same objection and instruction.

A. Sure.

Counsel for the complainant requests that the witness furnish such a socket and it be marked Complainant's Exhibit Yost Socket No. 5.

Mr. Curtis: You can furnish that at your convenience, Mr. Chapman.

X Q. 57. Did the Yost Company during your connection with it, ever make a shell construction as shown in the drawings of the Kenney Patent, 712,685?

A. Yes.

X Q. 58. When?

A. You mean commercially?

X Q. 59. Certainly I mean commercially?

A. Oh, no, not commercially.

X Q. 60. Did the Yost Company during your connection with it, ever make commercially, a shell construction as shown in the drawing of the Kenney Patent 712,686?

A. No.

X Q. 61. Please state what suits for infringement have been brought against the Yost Mfg. Company or customers of the Yost Mfg. Company for the sale of sockets made by the Yost Company, during your connection with the company?

Same objection and instruction.

A. There is one on the Painter Fiber Patent Lining, for
360 the lining of the shell; the Sargent Fiber Lining Patent, covering construction and method of retaining the lining of the cap; the Perkins Electric Switch Mfg. Co., for construction of the porcelain. I think that is all besides this Weber suit. Do you want that included?

Mr. Curtis: That is already in.

A. I don't recall any others now.

X Q. 62. Was the suit on the Perkins patent decided against your construction—holding it to be an infringement?

Same objection and instruction.

A. It was in the lower court, and reversed in the Court of Appeals. The Court of Appeals held on four sockets introduced in evidence that the type number one, of which there were only a few made, was an infringement, but the subsequent sockets, two, three and four did not infringe.

X Q. 63. Had there not been a previous decision on the Perkins Patent against your socket, holding it to be an infringement?

Same objection and instruction.

A. It was against a customer of the Yost Miller Company; predecessor of the Yost Mfg. Company, and was brought before my connection with the company. Then afterwards it was brought against the Yost Company and went to the Court of Appeals and was decided.

X Q. 64. In the first suit against the customer Buchanan, it was held that the interior construction of the Yost Key Socket,
361 as then made, infringed the Perkins Patent, was it not?

Same objection and instruction.

A. It was not. The socket held to infringe in that case was known as the Dixon Socket, manufactured by the Yost Miller Company, predecessor to the Yost Electric Company,—it was an entirely different construction.

X Q. 65. But the decision in that case against Buchanan was that the socket then made by the Yost Miller Company infringed the Perkins Patent?

Same objection and instruction.

A. Yes.

X Q. 66. It was so held, also on appeal, was it not?

Same objection and instruction.

A. Yes. Of course this,—all of this comes to me through past records you know,—I only know this——

Mr. Curtis: It is a matter of reports.

X Q. 67. Then after that decision against you in the Buchanan case, the interior construction was changed in the Yost Socket, and another suit was brought on the Perkins Patent, which is the one to which you have referred?

Same objection and instruction.

A. Yes.

X Q. 68. Do you know in what kind of a shell construc-
362 tion the socket was put out, the switch mechanism of which was held to infringe on the Perkins Patent?

Same objection and instruction.

A. I believe this was the ordinary screw construction, used by all manufacturers at that time.

X Q. 69. Wasn't the interior construction which was in issue in the Buchanan case, the same as that shown on page 8 of the Yost Booklet which was introduced in evidence?

Same objection and instruction.

A. I do not so understand. Of course I was not connected with the company at that time, and I was not familiar with all those details.

X Q. 70. Did your Yost Company ever undertake to defend a suit, or suits, brought by the Weber Electric Company against the National Gas and Electric Fixture Company, in the southern district of New York?

Same objection and instruction.

A. We were advised of some action having been taken against a customer for the sale of Yost Sockets, and were ready to undertake the defense providing of course it related to our product. We, however, on securing a copy of the bill of complaint, and learning the details in connection with the suit, found it was a matter in which we were not concerned, the two sockets in the suit was the Union, manufactured by the Union Electric Company of Trenton, New Jersey.

X Q. 71. I show you a socket marked American. Do you
363 know anything about the manufacture of that?

Same objection and instruction.

A. We make it.

X Q. 72. Do you still make it?

Same objection and instruction.

A. Not exactly in that form. I can furnish you one of the latest of these if you want me to.

X Q. 73. Will you kindly furnish one of the sockets which you are now making for the American Brass & Copper Company, which I understand is the Jobber of Sockets like this one last shown you?

Same objection and instruction.

A. Yes.

Mr. Curtis: The American Socket shown the witness in the next to last preceding question is marked Complainant's Exhibit "Yost American Socket."

X Q. 74. What is the reason for the difference in the degree of

prominence of the internal projections of the flange on the cap in the two sockets—two exhibit sockets,—Yost socket number three and Yost American Socket?

A. The Yost socket No. 3 is made of heavier material and makes a more secure lock. The interior projections in the American Socket are smaller, because of lighter weight material, and an attempt to make a neater appearance,—the construction was abandoned as impractical.

364 X Q. 74. You are referring to both constructions now?

Counsel for the defendant objects.

A. Yes, both.

Redirect examination.

By Mr. Cromwell:

R. D. Q. 75. You have stated in the Cross-Examination that the constructions disclosed in the drawings of the Kenney Patents, Nos. 712,685 and 712,686 have not been embodied in commercial structures. I direct your attention in both of these patents to the vertical slots "D" the openings "E" and the partitions "F" and ask you whether or not you desire your answer to stand, as saying that these particular slots and openings with co-operating projections to the caps of the sockets have not been embodied in commercial structures?

Counsel for the complainant objects to the question as indefinite and immaterial.

A. We have used that construction for years and in answering the question in Cross-Examination, I understood it to include each and every feature—and in exact detail—of an article made exactly in accordance with the drawing.

Mr. Cromwell: That is all.

Recross-examination.

By Mr. Curtis:

R. X Q. 76. Do I understand that you have during your connection with the Yost Company made sockets commercially embodying the features of these two Kenney Patents, 712,685 and 712,
365 686, otherwise than as shown in the exhibits which have been offered in evidence?

A. The exhibits show practically the entire line of sockets manufactured by us since 1903 under the Kenney Patents referred to.

Mr. Curtis: That is all.

FRANK H. CHAPMAN.

Counsel for the defendant moves to strike out such of the questions to which objection was duly made in the Cross-Examination

this witness and where the instructions were given to the witness not to answer the questions, and also complainant's exhibits Yost Sockets Nos. 3, 4, 5, Yost American, and Yost American No. 2, if these latter are introduced.

Defendant's counsel now offers in evidence Defendant's Exhibit Yost Booklet, Defendant's Exhibit Yost Socket No. 1, and Defendant's Exhibit Yost Socket No. 2, under the identifying markings.

366 United States District Court, District of New Jersey.

In Equity.

WEBER ELECTRIC COMPANY, Complainant,

vs.

E. H. FREEMAN ELECTRIC COMPANY, Defendant.

On Patent No. 743,206.

Notice of Taking Testimony.

Washington, D. C., Aug. 7, 1913.

Testimony on behalf of the defendant, taken pursuant to stipulations of counsel and orders of the Court herein at the offices of David P. Wolhaupter, McLachlen Building, Washington, D. C., before Charles E. Riordon, a Notary Public, in and for the District of Columbia, before whom it is stipulated that testimony may be so taken with the same force and effect as though said Charles E. Riordon had been duly appointed a Special Examiner for that purpose, and an order to this effect may be entered without notice, said testimony being taken pursuant to the annexed notice.

Present: David P. Wolhaupter, Esq., Counsel for defendant; and Frank C. Curtis, Esq., Counsel for complainant.

367 ARTHUR S. BROWNE, a witness called by and on behalf of the defendant, being first duly sworn, deposes and says, in answer to interrogatories propounded to him by counsel:

Question 1. Are you the Arthur S. Browne who had already testified on behalf of defendant in this cause?

Answer. Yes.

Q. 2. In your former testimony in this case you have explained the U. S. Letters Patent of Owen E. Kenney, No. 712,685 and 712,686, both dated Nov. 4, 1902. I now hand you two exhibit sockets filed herein and marked respectively, "Defendant's Exhibit, Yost Socket No. 1," and "Defendant's Exhibit, Yost Socket No. 2." Please compare these exhibits with the two Kenney patents referred to, and state in what respect if any they respond to either or both of said patents?

A. I will first consider Yost socket No. 1.

Yost Socket No. 1.

The characteristic feature of the first Kenney patent No. 712,685 is the construction whereby the cap and shell of the electric lamp socket are linked together by a snap action of interengaging parts. To this end, the cap is provided with inwardly projecting studs of which three are shown. The specification says (page 1, line 75) that the studs may be either made separate from the cap and secured in place by suitable means, or they may be made by punching the metal of the cap inwardly, and both constructions are shown in Figs. 2 and 4. The shell itself is provided with vertical open
368 mouthed slots which register with the several studs on the cap. In the neighborhood of each registering slot is a locking hole separated from the vertical slot by an intervening partition or bridge. To connect the cap and shell together, the slots in the shell are brought into register with the projecting studs of the cap; the shell is then slid telescopically within the cap until the studs seat against the bottoms of the slots; the shell is then given a turn, and the studs ride over the bridges or partitions between the slots and the locking holes which yield owing to the resilience of the metal and the presence of the slots; and when the studs come to register with the locking holes, the bridges or partitions spring outwardly, thus locking the studs in the holes. To facilitate the spring or snap action of the partitions or bridges, the specification says (page 2, line 5), that the edges of the slots and holes "may be slightly rounded or beveled toward each other in any suitable manner to facilitate the starting movement in either direction of the radial studs G.

Also, the inwardly pressed integral stud G' is shown with its sides beveled which facilitates the interlocking by the rotary movement of the shell.

This interlocking characteristic is present in the Yost socket No. 1, excepting that in the socket there is but a single locking hole with which a single stud on the cap engages by snap action. This stud is a separate stud fastened in place like the studs G of the first Kenney patent, and it has beveled sides like the stud G' of the Kenney patent. Likewise the bridge between the entrance slot and the locking hole of the shell is beveled to facilitate the entrance of the stud into the locking hole, as in the first Kenney patent. The interlocking by snap action disclosed in this first Kenney patent is incorporated in the Yost socket No. 1.

In the second Kenney patent, No. 712,686, two features
369 of difference are disclosed as compared with the first Kenney patent. The snap action in interlocking of the first Kenney patent is retained, but the locking holes and neighboring entrance slots are two instead of three, and there are two corresponding inwardly projecting studs on the cap.

In addition, the shell has two bayonet slots which are engaged by two inwardly projecting studs carried by the cap, thus providing additional security against longitudinal separation of cap and shell

and against relative rotation between them in one direction; and these two studs which engage the bayonet slots in the cap project inwardly far enough to engage recesses in the insular block to prevent rotation thereof within the shell. These features of the second Kenney patent, namely, the bayonet slot and the elongated studs engaging therewith and entering recesses in the block are in the Yost Socket No. 1.

Yost Socket No. 2.

This socket has the same snap action as both of the Kenney patents when interlocking the cap and shell together. In this socket there are two of the locking holes and two of the neighboring entrance slots which coact with the two inwardly projecting studs on the cap. Also, the locking of the cap and shell together is still further insured by two bayonet grooves co-operating with two studs as in the second Kenney patent, excepting that in socket No. 2 there is a reversal in position as compared with the second Kenney patent because the bayonet slots are in the cap and the studs project outwardly from the shell.

Yost Socket No. 2 is a key socket so that the key projecting outwardly through a slot in the shell prevents relative rotation between the shell and the insulating block within; therefore, this socket does not have the feature of the second Kenney patent consisting of the cap studs engaging recesses in the insulating block.

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Q. 3. I now hand you two manufactured samples of sockets furnished me by complainant's attorney as sockets manufactured by the complainant company in accordance with the Weber patents. Please compare these sample Weber sockets which I have marked "Weber Socket No. 1." and "Weber Socket No. 2." with the Yost sockets Nos. 1 and 2, particularly with reference to the manner in which these respective types of sockets lock and unlock, and state what you find to be the fact in this connection?

A. In the case of the two Weber sockets just shown me, the locking and unlocking can only be done by a straight telescopic movement. It is rendered impossible to lock or unlock in any other manner by reason of the presence of two open mouthed slots in the cap which engage two projections extending outwardly from the shell.

On the other hand, in the two Yost sockets, both the locking and the unlocking are effected by a relative rotary movement between the cap and shell; and it is impossible to either lock or unlock by a straight simple telescoping movement.

Q. 4. Referring to the two Weber sockets shown you, please state how these sockets compare with the Weber patent in suit with respect to the impossibility of a relative rotary movement between the cap and shell?

A. These Weber sockets differ from the Weber patent in suit in this respect. The Weber patent in suit does not have the open mouthed slots in the cap which engage outward projections on the shell which are characteristic of the Weber sockets and which pre-

vent any relative rotary movement therein between the shell and the cap. In the socket of the Weber patent, it is possible to disengage the cap and sleeve by a relative rotary movement and also to lock them together in a similar manner.

371 Q. 5. I now hand you another manufactured sample of the Weber socket which was furnished me by the complainant's attorney and in which the two outward projections which engage the open mouthed slots in the cap have been pressed flat by me so as to render them inoperative. I have marked this specimen socket "Weber Socket No. 3," and would ask you how this socket compares with the Weber patent in suit with respect to the capability of relative rotary movement between the cap and shell?

A. This sample illustrates the capacity for relative rotary movement between the shell and the cap. After the cap and shell have been locked together, they can be readily unlocked from each other by relative rotary movement. Likewise they can be locked together by relative rotary movement after the shell has been thrust into the cap as far as it will go.

Q. 6. I now call your attention to the patent to Weber et al., No. 916,812, dated March 30, 1909, application for which was filed July 18, 1904, and would ask you in what respects, if any, Weber sockets Nos. 1 and 2 before you respond to that patent confining your answer to the feature of locking and unlocking?

A. The Weber sockets are similar to this Weber patent No. 916,812 with respect to locking and unlocking. This Weber patent No. 916,812 has an open mouthed slot 19 in its cap as shown in Figs. 1 and 8 with which registers an outward projection 20 on the shell thereby compelling locking and unlocking by a straight longitudinal telescoping movement and preventing any unlocking by relative rotary movement between the cap and the shell. Concerning this organization, the specification of this Weber patent No. 916,812 says:

"To insure the alinement of said projections and recesses during telescopic application to each other of the sleeve and cap, the

372 edge of the cap is provided with a slot, 19, adapted to receive a projection, 20, on the outer side of the sleeve and guide the parts in their telescopic application to each other with the interlockable projections and recesses of the shell and cap respectively in alinement. The projection, 20, is preferably formed by displacing outwardly a portion of the sleeve wall between two longitudinal slits whereby when said projection enters the slot in the end of the cap rotative movement of the cap relatively to the shell is effectively prevented by engagement of the cut edges of the displaced portion of the shell with the cut edges of the slot-walls." (Page 2, lines 59 to 76.)

Except for the fact that the patent only illustrates one open mouthed slot in the cap and a single co-operating projection on the shell, whereas the Weber sockets have two slots and projections, the Weber sockets are like the Weber patent No. 916,812 in respect of locking and unlocking.

Q. 7. Have you read the opinion of Judge Ray in the case of Weber Electric Company vs. National Gas & Electric Fixture Company based on the two Weber patents Nos. 743,206 and 916,812, reported in 204 Federal Reporter, page 79?

A. Yes.

Q. 8. Do you find anything in the opinion in that case which would alter or modify the opinion which you have already expressed in your former testimony in this case?

A. No.

Q. 9. In the opinion of Judge Ray, in the case I have just cited, under the caption, "Patent No. 916,812," he says—

"In addition to interlocking means by snap-action, the interlocking means being integral with and forming a part of
373 the two members (cap and sleeve), as found in patent No. 743,206, to maintain telescopic union, we have here interlocking means by snap-action, the inter-locking means being integral with and forming a part of the said two members, to absolutely prevent rotation of the one member on the other and their possible disengagement as a result."

Please state if this is in accordance with your own view regarding the relation between these two Weber patents?

A. Yes.

Q. 10. Judge Ray in the opinion in the case referred to also says—

* * * "One of the main and controlling ideas of these Weber patents is that the unlocking of the parts is done, not by a rotation of either of the parts, but by, so to speak, an unbolting process; that is, by pressing the bolt back out of its socket and then pulling the sleeve away from the cap. This process in the Weber patent has been described heretofore and need not be repeated."

Please state if the foregoing coincides with your own opinion as to the characteristic features of the Weber patent, and to what extent, if any, this view applies to the defendant's socket?

A. His Honor, Judge Ray, in the extract just quoted, states the distinction between the Weber patent here in suit and the defendant's sockets. One of the main and controlling ideas of the Weber patent in suit is that the unlocking of parts is done without rotation of either of them (although the possibility of so doing is present), whereas in the defendant's socket relative rotation between
374 the parts is essential both in locking and unlocking, and the parts cannot be locked or unlocked by a direct pulling of the parts apart as in the socket of the Weber patent in suit.

Q. 11. In the same opinion of Judge Ray in the same case under discussion is found the following statement as to the construction of the cap and shell locking means of the Weber patent No. 743,206:

* * * "Near the upper or inner end of the sleeve and at two points substantially opposite each other a slit or cut is made in the metal of the sleeve, and above the slit the metal is pushed outwardly in such a manner as to form a sloping projection of metal. These

projections have a clean-cut lower edge metal cut. They are integral with the wall of the sleeve, and form a part of it. In effect they are the bolts of the lock, used to lock the cap to the sleeve by a snap action. In the cap member are two half-moon cuts through the walls of the cap, a little distance above the lower edge of the cap member and located with the projections described. The base of each half-moon aperture is clean-cut, metal cut. To assemble and interlock the two members, the sleeve member and the cap member, the sleeve is slightly compressed and inserted in the cap, and the projections on the sleeve, as the two are pushed together, enter and at once engage with the half-moon apertures in the cap. The two cut-metal edges engage."

In your opinion, to what extent, if any, does the defendant's socket respond to the foregoing quotation?

A. It does not correspond to the quoted definition. Defendant's cap member does not have any half-moon cuts through the
375 walls of the cap, and defendant's sleeve does not have a slit or cut made in the metal of the sleeve, nor is there any metal in defendant's socket which is pushed outwardly above the slit in such a manner as to form a sloping projection of metal. The interlocking is not accomplished by two cut metal edges engaging each other.

Q. 12. You have already explained the German patent of Mix & Genest, No. 106,898, of April 9, 1899, in giving your former testimony. I call your attention to two sample sockets which are respectively marked "Mix & Genest Socket No. 1" and "Mix & Genest Socket No. 2." Please compare these sample sockets with the said German patent of Mix & Genest and state to what extent, if any, they respond to the construction disclosed in that patent.

A. The Mix & Genest socket No. 1 just shown me, has the characteristics illustrated in German patent No. 106,898 with respect to the means whereby the insulating base of porcelain is prevented from rotation within the shell. As shown by this exhibit, the porcelain base has recesses on opposite sides into which fit introverted projections on the shell consisting of portions of the metal of the shell which are pressed into it so as to form inturned or introverted projections. Also in this exhibit, relative rotation between the cap and the porcelain base is prevented by introverted projections of the cap which fit in the recesses of the porcelain base.

In the Mix & Genest Socket No. 2, there are no introverted projections in the shell, but there are introverted integral projections on the cap which fit the recesses in the porcelain block to prevent rotation of the porcelain block or base within the shell. The Mix & Genest Socket No. 2 also differs from the German patent No. 106,898 in the manner in which the lamp base is connected with the socket. The patent shows the shell provided with bayonet slots for the attachment of the lamp base (this organization
376 being illustrated in the Mix & Genest Socket No. 1), whereas in Socket No. 2, there is a screw socket fixedly mounted on the porcelain base to receive the base of the lamp.

Cross-examination.

By Mr. Curtis:

X Q. 13. What is your authority for your statement in answer to Q. 4 that "in the socket of the Weber patent it is possible to disengage the cap and sleeve by a relative rotary movement?"

A. The Weber specification says nothing about this but it is apparent from the described and illustrated construction that such is the case. I understand, also, from the answers of complainant's expert, Mr. George A. Mosher, to X Q. 18 to X Q. 22 inclusive, that he was of the same opinion.

X Q. 14. Are you familiar with the construction of the Union sockets which were held by Judge Ray to infringe claim 4 of the patent here in suit?

A. Yes, I think so. I have been shown two sockets of different forms which I have been informed are like the key sockets of the defendant involved in that suit. One of these key sockets which has nine sided holes in the cap conforms precisely to Judge Ray's description of the defendant's socket in his opinion in the paragraph which is the last complete paragraph on page 89 of Vol. 204, Fed. Rep.

The other form of Union sockets is that which Judge Ray describes on page 88 of the same volume of the Federal Reporter.

X Q. 15. Do I understand that you concur in the conclusions reached by Judge Ray as expressed in his said opinion?

A. In part I do concur with Judge Ray and in part I do not. From the schedule of the prior art to which Judge Ray refers at the top of page 84 of Vol. 204, Federal Reporter, it is evident that he did not have before him the prior state of the art upon
377 which I have relied in expressing the opinions which I have adverse to the novelty of the invention of the Weber patent in suit. In view, therefore, of the more ample knowledge of the prior art which I possess, I do not agree with Judge Ray with respect to the novelty of the invention of the first Weber patent.

Also, I have given no consideration to the claimed subject matter of the second Weber patent with which Judge Ray's opinion also deals, and I, consequently, I cannot express any opinion concerning either the novelty of that subject matter or its infringement by the defendant in the suit in question.

The Union key sockets which are before me do not have the subject matter of claims 1, 2 and 3 of the first Weber patent here in suit No. 743,206. They have no introverted portions of the sleeve which engage the porcelain base, and I understand that no contention was made that these particular claims were infringed by the Union key sockets.

I do not have the Union keyless socket before me, but from explanation given me by Counsel for Complainant, I should agree with Judge Ray that they have the subject matter of the Weber patent No. 743,206. I agree with Judge Ray that the Union sockets have the subject matter of claim 4 of the Weber patent No. 743,206.

X Q. 16. Do you take issue that the conclusion expressed by Judge Ray in his said opinion as to the novelty and validity of claim 4 of Weber patent 743,206 so far as based upon the state of the art which was considered by Judge Ray?

A. I understand that Judge Ray considered only four prior patents as constituting part of the prior art, namely, Fowler, No. 659,061, Bray, No. 170,703, Oetting, No. 642,825, and Kenny British No. 10,429. I have not seen the Bray patent, but I have examined the other three. In my former deposition I referred to only the Oetting patent. On the basis of this prior art, I should
378 agree with Judge Ray as to the novelty of the subject matter of claim 4 of the Weber patent No. 743,206.

X Q. 17. What additional prior art patents considered by you, do you consider material as affecting the validity of said claim 4 of the Weber patent No. 743,206?

A. In connection with claim 4 of the Weber patent in suit I referred to seven prior patents. Of these seven, were the two Kenney U. S. patents Nos. 712,685 and 712,268 which Judge Ray decided were not part of the prior art by reason of his finding that Weber was entitled to an earlier date of invention.

My own conclusion as to claim 4 was that it did have "attenuated" novelty, not present in the Freeman socket. That attenuated novelty was present in the Union sockets.

I have already scheduled the seven patents which I have considered pertinent at the beginning of Answer to Q. 9 of my former deposition.

X Q 18. Then to save referring back to your previous testimony, may I understand that your disagreement with the conclusion reached by Judge Ray as to claim 4 of Weber patent 743,206 is based upon the patents to Pollard, 320,814, Rodman, 414,922, Ashworth, 589,921, and Epstein No. 657,267 in addition to the two Kenney U. S. patents which Judge Ray held to be not a part of the prior art?

A. I do not know that I disagree with Judge Ray at all with respect to claim 4. I do think that there is sufficient novelty in the subject matter of claim 4 to hold the Union sockets.

X Q. 19. In your answer to X Q. 15, you stated as follows, "in view therefore of the more ample knowledge of the prior art which I possess, I do not agree with Judge Ray with respect to the novelty of the invention of the first Weber patent." To whatever extent you so disagree with Judge Ray, is not your disagreement based upon the patent recited in the last preceding questions.
379 A. Yes, so far as claim 4 is concerned, I think though that any difference of opinion which I may have is simply one based upon the possible permissible scope of claim 4. Within what I understand to be its proper narrow limits, I think the subject matter is new. That is all that is necessarily involved in Judge Ray's opinion. In my former answer to X Q. 15 which you have quoted I had reference to the Weber invention as a whole and not to the subject matter of the particular claims.

X Q. 20. Without regard to the direction of movement by which

the cap and sleeve of the defendant's socket are separated, is it not a fact that in the defendant's socket the fastening device is released or unlocked by an unbolting process due to the intentional forcing inward of the sleeve adjacent to the slit therein?

A. Yes.

X Q. 21. Do you find in the Mix & Genest Socket No. 1 considered alone a complete anticipation of any of the claims 1, 2, 3 or 4 of the Weber patent in suit?

A. This exhibit is not relevant at all to claim 4. It is not in itself a complete anticipation of the subject matter of claims 2 and 3 of the Weber patent in suit, because the electric lamp support or screw socket is not mounted on the insulating block itself but on the sleeve. In this respect Weber has adopted an arrangement which was well known at the time, as shown by the patents to which I referred in my former deposition.

Also, this exhibit does not have the subject matter of claim 1 of the Weber patent in suit, because it does not have the means therein defined for connecting the sleeve and cap together.

ARTHUR S. BROWNE.

380 Counsel for defendant now offers in evidence, as a part of the defense proofs, the following exhibits, and requests the Examiner to receive the same in evidence to be marked respectively,

"Defendant's Exhibit, Certified Copy, Freeman Reisssued Patent No. 13,247."
"Defendant's Exhibit, Weber Patent No. 916,812."
"Defendant's Exhibit, Kenny British Patent No. 10,429 of 1896."
"Defendant's Exhibit, Weber Socket No. 1."
"Defendant's Exhibit, Weber Socket No. 2."
"Defendant's Exhibit, Weber Socket No. 3."
"Defendant's Exh*b*it, Mix & Genest Socket No. 1."
"Defendant's Exhibit, Mix & Genest Socket No. 2."

It is stipulated that the "Union Sockets" before His Honor Judge Ray in the case of Weber Electric Company vs. National Gas & Electric Fixture Company (Vol. 204, Fed. Rep., page 79) may be identified in this case respectively as,

"Defendant's Exhibit, Union Socket No. 1."
"Defendant's Exhibit, Union Socket No. 2."
"Defendant's Exhibit, Union Keyless Socket."

said Union sockets Nos. 1 and 2 being referred to in Mr. Browne's answer to X Q. 14 in the foregoing deposition.

381 In the District Court of the United States for the District of New Jersey.

Permission to Take Testimony Abroad.

The President of the United States of America to Honorable Alexander M. Thackera, American Consul-General, the Vice-Consul General or Deputy Consul General, Berlin, Germany, Greeting:

Know ye, that we in confidence of your prudence and fidelity, have appointed you a Commissioner, and by these presents do give you full power and authority diligently to examine members of the firm of Mix & Genest, of Berlin, Germany, or duly qualified representatives or employees of that firm, upon the interrogatories and cross-interrogatories annexed hereto, provided reasonable notice of the taking of such depositions be given to the solicitor of the Complainant, each upon his corporal oath or affirmation before you to be taken, as a witness on the part of the defendant, in a certain cause now pending undetermined, in the District Court of the United States of America for the District of New Jersey, wherein Weber Electric Company is complainant, and E. H. Freeman Electric Company is defendant, which suit is brought on Letters Patent No. 743,206; and we do hereby require you before whom such testimony is to be taken, to reduce the same to writing and to close it up under your hand and seal, together with a duly certified transla-
382 tion thereof into the English language, and direct it to the Clerk of the United States District Court, District of New Jersey, Trenton, New Jersey, U. S. A., as soon as may be after the execution of this commission; that you return the same when executed as above directed, with the title of the cause endorsed upon the envelope of the commission.

Witness, the Honorable Joseph Cross, Judge of the District Court of the United States for the District of New Jersey, at Trenton, this third day of September, 1913.

[SEAL.] GEORGE T. CRANMER,
Clerk.

By C. S. CHEVRIER,
Deputy.

383 United States District Court, District of New Jersey.

In Equity.

WEBER ELECTRIC COMPANY

vs.

E. H. FREEMAN ELECTRIC COMPANY.

On Patent No. 743,206.

Interrogatories to be Propounded to Representatives or Employees, of Aktiengesellschaft, Mix & Genest, Located at Berlin, Germany:

Interrogatory 1. What is your name, age, occupation, and place of residence?

Int. 2. What, if any, position did you hold as a representative or employee of Aktiengesellschaft Mix & Genest, of Berlin, Germany, in the years 1899, 1900, 1901, 1902 and 1903, or in any of these years?

Int. 3. What, if any, position do you now hold as a representative or employee of the said company of Mix & Genest, of Berlin, Germany?

Int. 4. If your answers to interrogatories 2 and 3 have been in the affirmative, please state how long you have been connected with Mix & Genest, either as a representative of that company, or as an employee.

Int. 5. Please state what classes of goods are manufactured and marketed by Mix & Genest.

Int. 6. Please state, if you know, whether or not the goods manufactured by Mix & Genest have been and are sold outside of
384 the German Empire, and if so, in what countries?

Int. 7. If you know, please state for how long Mix & Genest have engaged in manufacturing the classes of goods referred to in your answer to Interrogatory No. 5?

Int. 8. You are now handed the original of a letter addressed to Herrn Patentanwalt Carl Gustav Gsell, dated 17 March, 1913, on the letter sheet of Mix & Genest, and signed on behalf of that company by two attesting signatures, and also a sample of electrical lamp socket or mounting which accompanied that letter and which is marked "Mix & Genest, Exhibit No. 1." Please state what, if anything, you know about the circumstances which solicited the writing of that letter, and to what extent, if any, you participated in the preparation or signing thereof?

Int. 9. If you can testify to the facts stated in the said letter of 17 March, 1913, and can identify the Mix & Genest socket or mounting, Exhibit No. 1, as the product referred to therein, please state in what way you have ascertained or verified the fact that the said socket or mounting was manufactured and sold in quantities by Mix & Genest from 1899 to 1903?

Int. 10. Please state if you can, in what quantities the Mix & Genest Exhibit No. 1 were manufactured and sold on the market during the period testified to by you, and, if the said type of socket is no longer manufactured and sold, please state the reason why it has been discontinued?

Int. 11. You are now handed the original of a second letter addressed to Herrn Patentanwalt Carl Gustav Gsell, dated 28 April, 1913, on the letter sheet of Mix & Genest, and signed on behalf of that company by two attesting signatures, and also a sample of electrical lamp socket or mounting which accompanied that letter and which is marked "Mix & Genest Exhibit No. 2." Please state
385 what, if anything, you know about the circumstances which solicited the writing of that letter, and to what extent, if any, you participated in the preparation or signing thereof?

Int. 12. If you can testify to the facts stated in the said letter of 28 April, 1913, and can identify the Mix & Genest socket or mounting, Exhibit No. 2, as the product referred to therein, please state in what way you have ascertained or verified the fact that the said socket or mounting was manufactured and sold in quantities by Mix & Genest since the year 1900?

Int. 13. Please state, if you can, in what quantities, the Mix & Genest Exhibit No. 2 were manufactured and sold on the market during the period testified to by you, and, if the said type of socket is no longer manufactured and sold, please state the reason why it has been discontinued?

Int. 14. Do you know, or can you set forth any matter or thing which may be of benefit or advantage to the parties of issue in this cause or either of them, or that may be material to the subject of this, your examination, or the matters in question in this cause? If yes, set forth the same fully and at large in your answer.

386 [Endorsement.]

United States District Court, District of New Jersey. Weber Electric Company, vs. E. H. Freeman Electric Company. Written Interrogatories. Filed by Defendant for use in Testimony Abroad. D. P. Wolhaupter, Esq., Solicitor for and of Counsel for Defendant, 760 Tenth Street, Washington, D. C.

Cross-Interrogatories Without Waiver of Objections.

Cross-Int. 15. Do you know of your own personal knowledge all changes that were made in electrical lamp-sockets or mountings during 1899, 1900, 1901, 1902 and 1903 by Mix & Genest?

Cross-Int. 16. If your answer to cross-interrogatory 15 was in the affirmative, please describe each and every change made in the construction of the Mix & Genest lamp-sockets or mountings during said years 1899 to 1903 inclusive, stating as nearly as you can the date when each change was made.

FRANK C. CURTIS,
Solicitor and of Counsel for Complainant.

Troy, N. Y., July 21, 1913.

387 United States District Court, District of New Jersey.

In Equity.

WEBER ELECTRIC COMPANY

vs.

E. H. FREEMAN ELECTRIC COMPANY.

On Patent No. 743,206.

Objections.

Counsel for Complainant interposes the following objections to the interrogatories to be propounded to representatives, or employees, of Aktiengesellschaft, Mix & Genest, located at Berlin, Germany.

1. Objection is made to all testimony sought to be adduced by said interrogatories and to each and every of said interrogatories, on the ground that the same is incompetent and immaterial and has no legal bearing upon the matter in issue.

2. Interrogatory 9 is specifically objected to as calling for hearsay testimony and not the best evidence.

3. Interrogatory 12 is specifically objected to as calling for hearsay testimony and not the best evidence.

4. Objection will also be made to the presence at the examination of any witness or witnesses under this commission of any attorney or representative of the Defendant or any other party than the Commissioner and the interpreter officially designated by the Commissioner.

388 [Endorsement.]

United States District Court, District of New Jersey. Weber Electric Company, vs. E. H. Freeman Electric Company. Objections and Cross-Interrogatories. Filed July 22, 1913.

[Endorsement.]

U. S. District Court, District of New Jersey. Weber Electric Company, vs. E. H. Freeman Electric Co. Commission. Filed November 11, 1913.

389 United States District Court, District of New Jersey.

In Equity.

WEBER ELECTRIC COMPANY

vs.

E. H. FREEMAN ELECTRIC COMPANY.

Order for Commission to Take Testimony Abroad.

On Patent No. 743,206.

On reading and filing the affidavit and accompanying exhibits of solicitor and counsel for defendant in the above entitled cause, with proof of due service thereof on the solicitor and counsel for complainant, Frank C. Curtis, Esq., appearing for the complainant, and David P. Wolhaupter, Esq., for the defendant:

It is, on motion of solicitor and counsel for defendant herein, ordered that a Commission be issued in this cause out of this Court, directed to the Honorable Alexander M. Thackera, U. S. Consul General, at Berlin, Germany, or his duly authorized deputy, to examine members of the firm of Mix & Genest, of Berlin, Germany, or duly qualified representatives or employees of that firm, to testify regarding the facts alleged in the said affidavit of solicitor for defendant; under oath, as witnesses herein:

It is further ordered that the examinations above provided for shall be completed by October 1, 1913.

It is further ordered that the depositions of all witnesses under this Commission shall be taken upon the written interrogatories and cross-interrogatories furnished respectively by counsel
390 for defendant and counsel for complainant, which shall have been either approved by this Court or by stipulation or agreement of counsel themselves, and that the testimony so given under such examination shall be reduced to writing, signed by the witnesses, and certified by the Commissioner, and by him transmitted by registered mail to the Clerk of this Court at the City of Trenton, New Jersey, U. S. A., unless otherwise mutually agreed upon by said counsel for both parties, and a copy thereof furnished to Complainant.

It is further ordered that the testimony taken by virtue hereof shall be taken in the German language, and that a duly certified English translation thereof may be made by and received from the said Commissioner, or his duly authorized deputy or representative, and shall constitute the official translation of said testimony.

It is further ordered that all directions herein contained as to time, place and manner of examination of said witnesses, may be changed or modified by the written consent of the counsel for the respective parties.

And, it is further ordered that all testimony taken under the

Commission provided for herein shall be taken subject to all legal objections at the trial of this cause, and shall be taken at the sole cost and expense of the Defendant herein.

JOSEPH CROSS,
Judge.

O. K. as to form.
F. C. C.

[Endorsement.]

391 United States District Court, District of New Jersey. Weber Electric Company vs. E. H. Freeman Electric Company. Order for Commission to Take Testimony Abroad. D. P. Wolhaupter, Esq., Solicitor and of Counsel for Defendant. 700 Tenth Street, Washington, D. C. Filed July 7, 1913.

Deposition of Witnesses.

Deposition of witnesses, produced, affirmed and examined the thirteenth, fifteenth and seventeenth days of October respectively in the year one thousand nine hundred and thirteen, at the American Consulate-General, Berlin, Empire of Germany, upon, under and by virtue of a Commission issued out of the United States District Court for the District of New Jersey, in a certain cause therein depending and at issue between the Weber Electric Company, plaintiff, against the E. H. Freeman Electric Company, defendant, in Equity on Patent No. 743,206, as follows:

392 WILHELM WINKELMANN, of Berlin, German, an engineer, aged 35 years and upwards, being duly and publicly affirmed, pursuant to the directions hereto annexed and examined on the part of the defendant doth depose and say as follows:

The Witnesses not speaking the English language fluently, Friedrich von Versen was duly sworn as interpreter.

First: To the first interrogatory he says:
Wilhelm Winkelmann; 35 Jahre; Prokurist und Ober-Ingenieur der Aktien-Gesellschaft Mix & Genest; Friedenau bei Berlin, Offenbacherstrausse 2.
Translation: Wilhelm Wilkelmann; 35 years; head-clerk (Prokurist) and chief engineer of the Mix & Genest Company; Friedenau near Berlin, Offenbacherstrasse 2.
Second: To the second interrogatory he says:
Nein.
Translation: No.
Third: To the third interrogatory he saith:
Prokurist der Mix & Genest A.-G. und Ober-Ingenieur.
Translation: Head-clerk (Prokurist) of the Mix & Genest Company and chief engineer.
Fourth: To the fourth interrogatory he saith:
Ich bin Ober-Ingenieur seit 1907; Prokurist seit 1910.

Translation: I have been chief engineer since 1906; head-clerk (Prokurist) since 1909.

Fifth: To the fifth interrogatory he saith:

Telephon- & Telegraphen-Apparate; elektrische Zähler; elektrische Signal-Apparate; galvanische Elemente; Blitzableiter-Artikel.

Translation: Telephone and telegraph apparatus; electric
393 meters (Zähler); electric signal apparatus; galvanic elements; lightning-rod connections.

Sixth: To the sixth interrogatory he saith:

Wir haben eine eigene Export-Abteilund in Hamburg. Diese Export-Abteilung verkauft an Exporteure, und diese exportieren die Waren nach dem Ausland; dann verkauft die Export-Abteilung auch durch ihre, z. B. in Süd-Amerika, befindlichen Vertreter wieder ins Ausland direkt. Es ist mir zur Zeit unmöglich, die Länder aufzuzählen, und sind mir auch nicht alle bekannt, in die unsere Waren gehen, jedenfalls glaube ich aber, dass wir wohl nach sämtlichen Erdteilen Waren exportieren. Falls nähere Angaben hierüber erwünscht sind, würde ich vorschlagen, den chef unserer Export-Abteilung, Herrn Rassau, in Hamburg, zu vernehmen.

Translation: We have an export department of our own in Hamburg. This export department sells to exporters, and these exporters in turn export the wares to foreign countries. The export department also sells directly to foreign purchasers through its representatives abroad, who are located in South America, for instance. It is impossible for me at the present time to name the countries to which our wares are sent, nor are they all known to me. I believe, however, that we export wares to all parts of the world. In case more definite statements are desired in this regard, I would suggest that you take the testimony of the chief of our export department, Mr. Rassau, in Hamburg.

Seventh: To the seventh interrogatory he saith:

Seit etwa 30 Jahren besteht die Firma und hat sich allmählich aus kleinen Anfängen aufgebaut und fabriziert den grössten Teil der unter 5 erwähnten Waren seit ca. 25 Jahren.

Translation: The firm has been in existence for about 30 years and has gradually been built up from small beginnings so that now it manufactures the greater part of the wares men-
394 tioned in interrogatory 5, and has been doing so for about twenty-five years.

Eighth: To the eighth interrogatory he saith:

An der Aufmachung der Briefes vom 17. März 1913, gezeichnet "Exhibit No. A," bin ich nicht beteilgt gewesen. Die Aufmachung des Briefes ist in unserer Patent-Abteilung geschehen, welche, so weit mir bekannt ist, eine Anfrage erhalten hat, ob wir Fassungen nach einem bestimmten Patent, No. 106,898, hergestellt haben. Es ist ein Beamter unserer Patent-Abteilung mit den Recherchen betraut worden, und er hat festgestellt, dass sich tatsächlich bei uns am Lager noch einige solcher Fassungen ge-

unden haben, dass ferner komplette Zeichnungen zu diesen Fassungen bei uns im Archiv vorhanden sind, dass ferner Stücklisten sich vorgefunden haben. Ich habe selbst diese Zeichnungen gesehen. Ich erkenne den Brief und auch das Stück als von der A.-G. Mix & Genest angefertigt an, auf Grund der Recherchen, die die Patent-Abteilung angestellt hat, und auf Grund meiner Unterschrift, die ich unter den Brief gesetzt habe. Der Brief ist von der Patent-Abteilung abgefasst und mir nur zur Unterschrift mit der einer der Direktoren, nach den Vorschriften des Hendelsgesetzes, vorgelegt worden, und ich habe ihn in der Post mit unterschrieben. Feststellen, ob die Apparate im Jahre 1899-1903 hergestellt worden sind, kann ich nicht aus eigener Anschauung, de ich damals noch nicht bei der Firma war, aber ich habe gesehen, dass die Zeichnungen mit einem Datum versehen sind, welches darauf hinweist, dass die Herstellung in diesen Jahren geschehen sein muss. Das ist der Vorgang, den ich über disen Brief erzählen kann.

Translation: I did not participate in the preparation of the letter of March 17, 1913, marked "Exhibit A." The letter was prepared in our patent department, which so far as I know, had received an inquiry, as to whether or not we manufactured
395 sockets in accordance with a certain patent, No. 106,898. An official of our patent department was ordered to make investigations from which he ascertained that, as a matter of fact, several such sockets were still to be found in stock; furthermore, that complete drawings for these sockets were on hand in our archives, and also that shop cards had been found. I have seen these drawings myself. I recognize the letter by my signature attached thereto. The investigations made by the patent department enable me to recognize the socket as one manufactured by the Mix & Genest Company. The letter was prepared by the patent department. It was presented to me for my signature along with that of one of the directors, in accordance with the requirements of the commercial law, and I signed it with other matt. I am not in a position to state from my own knowledge, whether or not the sockets were manufactured in the years 1899-1903, not having been with the firm at that time; however, I have noticed that the date of the drawings would indicate that the manufacture of the sockets in question must have taken place in the years mentioned. This is all I can tell about the letter.

Ninth: To the ninth interrogatory he saith:

Ich habe dies schon am Schluss des letaten Satzes in meiner Antwort auf Frage No. 8 getan, indem ich erwähnte, dass sich Zeichnungen vorgefunden haben, die darauf schliessen lassen, dass sie zur Fabrikation in der Werkstatt in den Jahren 1899-1903 erforderlich gevesen sind.

Translation: I have already done so in the latter part of my answer to interrogatory No. 8 by mentioning that drawings have been found, from which one may conclude that they had been required for manufacture in the workshop in the years 1899-1903.

Tenth: To the tenth interrogatory he saith:

Darüber kann ich nichts angeben. Dass die Fabrikation
396 eingestellt wurde, kann ich bestätigen, warum, weiss ich
nicht.

Translation: I am not in a position to say anything in regard thereto. I can testify that the manufacture has been abandoned, but I do not know why.

Eleventh: To the eleventh interrogatory he saith:

Der Brief vom 28. April 1913, gezeichnet "Exhibit B," spricht von 2 Swan Fassungen, und das mir vorgelegte Muster "Mix & Genest Exhibit No. 2" ist eine Edison Fassung. Es besteht also ein Wider-spruch zwischen dem Brief und dem Muster. Ich nehme daher an, dass irgend ein Irrtum bestehen muss, den ich nicht ohne weiteres aufklären kann. Das Stück ist von Mix & Genest fabriziert. Ich kann nicht sagen, warum der Brief geschrieben worden ist, kann höchstens annehmen, wass wiederum eine telefonische Anfrage hier vorgelegen hat, die mit dem Chef unserer Patentabteilung gepflogen worden ist, und dass darnach noch 2 Swan Fassungen gefordert würden. Ich habe diesem Brief auch nicht dieselbe Wichtigkeit wie dem ersten Schreiben beigemessen, mit welchem wir das Original-Muster der Swan Fassung geschickt haben. Aus diesem Grund ist der Brief auch nur von 2 Prokuristen, und nicht von einem der Direktoren, gezeichnet worden.

Translation: The letter of April 28, 1913, marked "Exhibit B" speaks of 2 Swan sockets, and the sample "Mix and Genest Exhibit No. 2" shown to me is an Edison socket. Therefore, a contradiction exists between the letter and the sample. I accordingly suppose that some mistake must have occurred, which I cannot rectify without further information. The sample was manufactured by Mix & Genest. I cannot say why the letter was written. I can only suppose that another telephone inquiry was received and attended to by the chief of our patent department, and that as a result two more Swan sockets were ordered. I did not con-
397 sider this letter of the same importance as the first letter which we sent out with the original sample of the Swan socket. Also, the letter was signed by only two head-clerks (Prokuristen), and not by one of the directors.

Twelfth: To the twelfth interrogatory he saith:

Ich kann ja "Mix & Genest Exhibit No. 2" nicht als das in dem zweiten Briefe bezeichnete Beweisstück identifizieren, daher kann ich mich über diese Frage nicht aussern.

Translation: Not being in a position, of course, to identify "Mix & Genest Exhibit No. 2" as being the socket mentioned in the second letter, I cannot make any statements in regard to this question.

Thirteenth: To the thirteenth interrogatory he saith:

Dieses Muster, welches "Mix & Genest Exhibit No. 2" ausgezeichnet, aber keine Swan Fassung ist, ist in sehr grossen Quantitäten von der Aktiengesellschaft Mix & Genest während der Jahre 1909 1910 fabriziert und auf den Markt gebracht worden. Die Fabrik

tion und der Verkauf sind dann eingestellt worden, weil die gesamte Stark-strom-Fabrikation aufgegeben wurde.

Translation: This sample, which is marked "Mix & Genest Exhibit No. 2," but which is not a Swan socket, was manufactured in very large quantities by the Mix & Genest Company during the years 1900-1910 and placed upon the market. Its manufacture and sale were given up, when the manufacture of all high-tension current articles was abandoned.

Fourteenth: To the fourteenth interrogatory he saith:

Es wird vielleicht möglich sein, die Umsätze, welche mit der Fassung "Mix & Genest Exhibit No. 1" erzielt worden sind, durch eine Rückfrage bei der A.-G. Mix & Genest festzustellen; es sind
mir Herren, die während dieser Zeit die Fabrik geleitet
398 haben bekannt, und würde vielleicht eine Zeugenvernehmung dieser Herren für die Parteien von Interesse sein. Der eine ist der Ober-Ingenieur Hermanni von der Allgemeinen Elektrizitäts-Gesellschaft, Berlin, Karlstrasse; dann sein Herr Drefs, dessen Adresse mir unbekannt ist, die aber schon in einem Schreiben von Mix & Genest dem Patentanwalt angegeben worden ist, und dann ein Herr Bargmann, der seinerzeit die Zeichnungen entworfen und auch mit der Werkstatt zu tun hatte, der jedoch nicht mehr bei uns ist, sich aber hier in Berlin in irgend einer Stellung aufhalten soll. Seine Adresse ist mir unbekannt.

Translation: It will perhaps be possible to ascertain the number of sockets "Mix & Genest Exhibit No. 1" sold by inquiry of the Mix & Genest Company. Some gentlemen are known to me who conducted the factory during this period, and testimony by them would perhaps be of interest. One of them is Mr. Hermann, Chief Engineer of the Allgemeine Elektrizitäts-Gesellschaft, Karlstrasse, Berlin; there is also one Mr. Drefs, whose address I do not know. These gentlemen, however, have already been mentioned to the patent attorney in a letter from Mix & Genest. There is also one Mr. Bargmann, who designed the drawings at the time and was also connected with the workshop, but who is no longer with us. However, he is supposed to be staying in Berlin, holding some sort of a position. His address is unknown to me.

Cross-interrogatories:

Fifteenth: To the fifteenth cross-interrogatory he saith:

Nein.

Translation: No.

Sixteenth: To the sixteenth cross-interrogatory he saith:
399 Meine Antwort auf Frage No. 15 war verneinend.

Translation: My answer to interrogatory No. 15 was in the negative.

(Signed) WILHELM WINKLEMANN.

AMERICAN CONSULATE-GENERAL,
Berlin, Empire of Germany:

I, A. M. Thackara, American Consul-General at Berlin, Germany, do certify that Wilhelm Winkelmann, the witness, personally appeared before me on the thirteenth day of October, 1913, at 10:30 o'clock in the forenoon, at the American Consulate-General, Berlin, Germany, and after being affirmed to testify the truth, the whole truth, and nothing but the truth, did depose to the matters contained in the foregoing deposition and did in my presence subscribe the same and indorsed the exhibits annexed thereto. And I further certify that I have subscribed my name to each half sheet thereof and to each exhibit. And I further certify that Richard Schultz appeared on behalf of the defendants and I further certify that the above translations are correct.

A. M. THACKARA,
Commissioner.

400 CARL BECKMANN, of Berlin, Germany, an engineer, aged 44 years and upwards, being duly and publicly affirmed, pursuant to the directions hereto annexed and examined on the part of the defendant doth depose and say as follows:

First: To the first interrogatory he saith:

Carl Beckmann; 44 Jahre; Ober-Ingenieur; Lichterfelde-Ost, Lorenzstrasse 6.

Translation: Carl Beckmann; 44 years; chief-engineer; Lichterfelde-Ost, Lorenzstrasse, 6.

Second: To the second interrogatory he saith:

Ja, als Ober-Ingenieur während der in Frage stehenden Jahre.

Translation: Yes, as chief-engineer during the years in question.

Third: To the third interrogatory he saith:

Ober-Ingenieur und Prokurist.

Translation: Chief-engineer and head-clerk (Prokurist).

Fourth: To the fourth interrogatory he saith:

Seit 1894 mit Unterbrechung von 2 Jahren, 1896 bis 1898.

Translation: Since 1894 with an interruption of 2 years, 1896 to 1898.

Fifth: To the fifth interrogatory he saith:

Alle Artikel der Schwachstrom-Technik; Haus-Telephon-Apparate. Von Starkstrom-Technik; Armaturen, Schalter, Lampenfassungen und Zähler. Die Fabrikation der Armaturen ist seit 1910 oder 1911 aufgegeben.

Translation: All articles for low tension current; house-telephone apparatus. Armatures for high-tension current, switches, lamp-sockets and counters (Zähler). The manufacture of armatures has been abandoned since 1910 or 1911.

401 Sixth: To the sixth interrogatory he saith:

Mir ist bekannt, dass sie ausserhalb des Deutschen Reiches verkauft werden, aber ich kann die Länder nicht aufzählen, da ich mit dem Verkauf nichts zu tun habe.

Translation: I know that they are sold outside of the German Empire, however, I cannot name the countries as I have nothing to do with the sale of the products.

Seventh: To the seventh interrogatory he saith:

Schwachstrom-Artikel seit Bestehen der Firma, ich glaube, 1883, und Starkstrom-Artikel seit 1897, glaube ich.

Translation: Articles for low-tension current since the firm was founded, which I believe was in 1883, and articles for high-tension current since 1897, I believe.

Eighth: To the eight- interrogatory he saith:

Mir ist persönlich über die in dem vom 17. März datierten und "Exhibit A" gezeichneten Brief erwähnte Angelegenheit nichts bekannt.

Translation: I personally know nothing about nor have I had anything to do with the matter mentioned in the letter dated March 17, 1913, and marked "Exhibit A."

Ninth: To the ninth interrogatory he saith:

Darüber kann ich auch nichts angeben. Ich habe mit der Fabrikation nichts zu tun gehabt, weiss nur im allgemeinen, dass solche Lampenfassungen fabriziert worden sind.

Translation: I am also not in a position to make any statements in regard thereto. I have had nothing to do with the manufacture and only know in general that such lamp-sockets have been manufactured.

Tenth: To the tenth interrogatory he saith:

Darüber ist mir nichts bekannt. Ich habe mit der Fabrikation persönlich nie etwas zu tun gehabt. Die Fabrikation dieser
402 Art Fassung ist eingestellt worden, weil sie nicht mehr lohnte.

Translation: I know nothing in regard thereto. I personally have never had anything to do with the manufacture. The manufacture of the type of socket was abandoned because it was no longer profitable.

Eleventh: To the eleventh interrogatory he saith:

Ich habe den Brief vom 28. April 1913, gezeichnet "Exhibit B" in meiner Eigenschaft als Prokurist gezeichnet, habe aber mit der Erledigung des Schreibens persönlich nichts zu tun gehabt. Ich nehme an, dass das Schreiben von unserer Patent-Abteilung erledigt worden ist, und ich habe es nur als Prokurist in Namen der Firma unterschrieben.

Translation: I signed the letter of April 28, 1913, marked "Exhibit B" in my capacity as head-clerk (Prokurist) personally; however, I had nothing to do with the matter referred to in the letter. I assume that the letter was written by our Patent Department, and I only signed it as head-clerk (Prokurist) in the name of the firm.

Twelfth: To the twelfth interrogatory he saith:

Ich kann die Sache nicht beurteilen, weil ich persönlich nie etwas damit zu tun hatte. Es kann nach meiner Erfahrung ebenso gut das Fabrikat einer anderen Firma sein. Es betrifft die Starkstrom-Abteilung, während ich in der Schwachstrom-Abteilung beschäftigt bin.

Translation: I am not in a position to give an opinion on the

matter for the reason that I personally have never had anything to do therewith. According to my knowledge the socket might be the manufacture of another firm. The product referred to pertains to the high-tension department, whereas I am employed in the low-tension department.

Thirteenth: To the thirteenth interrogatory he saith:

403 Angaben über die Quantitäten kann ich nicht machen, und der Grund der Einstellung der Fabrikation war ungenügende Rentabilität dieses Artikels.

Translation: I am not in a position to make any statements as to the quantities, but the reason for the abandonment of the manufacture of the article was that there was insufficient profit.

Fourteenth: To the fourteenth interrogatory he saith:

Ich kann keine Angaben machen.

Translation: I can make no statements.

Cross-interrogatories:

Fifteenth: To the fifteenth cross interrogatory he saith:

Nein.

Translation: No.

Sixteenth: To the sixteenth cross interrogatory he saith:

Da meine Antwort auf Frage No. 15 verneinend lautete, kann ich nichts sagen.

Translation: For the reason that my answer to cross-interrogatory No. 15 was in the negative, I can state nothing whatsoever.

(Signed) CARL BECKMAN.

AMERICAN CONSULATE-GENERAL,
Berlin, Empire of Germany:

I, A. M. Thackara, American Consul-General at Berlin, Germany, do certify that Carl Beckman, the witness, personally appeared before me on the thirteenth day of October, 1913, at 11:30 o'clock in the forenoon, at the American Consulate-General, Berlin, Germany, and after being affirmed to testify the truth, the whole truth, and

404 nothing but the truth, did depose to the matters contained in the foregoing deposition and did in my presence subscribe the same and endorsed the exhibits annexed thereto. And I further certify that I have subscribed my name to each half sheet thereof and to each exhibit. And I further certify that Richard Schultz appeared on behalf of the defendants and I further certify that the above translations are correct.

A. M. THACKARA,
Commissioner.

ALFRED HERMANNI, of Berlin, Germany, an engineer, aged 37 years and upwards; being duly and publicly affirmed, pursuant to the directions hereto annexed and examined on the part of the defendant doth depose and say as follows:

First: To the first interrogatory he saith:

Alfred Hermanni; 37 Jahre; Ober-Ingenieur; Niederschönhausen bei Berlin, Kaiserweg 54.

Translation: Alfred Hermanni; 37 years; chief-engineer; Niederschönhausen near Berlin, Kaiserweg 54.

Second: To the second interrogatory he saith:

Ja. Ich bin in die Firma Mix & Genest im Jahre 1899 eingetreten, zuerst als Konstrukteur; von 1902 an als Abteilungs-Vorstand der Starkstrom-Abteilung.

Translation: Yes. I entered the employ of the firm of Mix & Genest in the year 1899 first as constructor and from 1902 on I was Chief of the Department for High Tension Current.

Third: To the third interrogatory he saith:

Nein.

495 Translation: None.

Fourth: To the fourth interrogatory he saith:

Von 1899 an bis 1. Januar 1908.

Translation: From 1899 till January 1, 1908.

Fifth: To the fifth interrogatory he saith:

Ich kann dies nur von meiner Abteilung sagen, und zwar: Installations-Material, wie Glühlicht Lampen-Fassungen, Schalter, Sicherungen, Steckkontakte.

Translation: I can only state this as to my Department: Installation-material, such as incandescent lamp sockets, switches, safety devices and contact plugs.

Sixth: To the sixth interrogatory he saith:

Das kann ich nicht sagen.

Translation: I am not in a position to say.

Seventh: To the seventh interrogatory he saith:

Seit 1899 bis zu meinem Abgang.

Translation: From 1899 up to the time of my leaving.

Eighth: To the eighth interrogatory he saith:

Ich habe nichts mit dem Schreiben des betreffenden Briefes, gezeichnet "Exhibit A" zu tun gehabt, weder mit der Aufmachung noch unterzeichnung desselben.

Translation: I had nothing to do with the writing of the letter in question, marked "Exhibit A," either with regard to the preparation or signing of same.

Ninth: To the ninth interrogatory he saith:

Da ich die Frage No. 8 negativ beantwortet habe, ist die Beantwortung dieser Frage wie folgt einzuschränken:

Die Fassung "Mix & Genest Exhibit No. 1" ist im Prinzip den Fassungen ähnlich, die von der Firma Mix & Genest angefertigt worden sind, ob es dieselbe ist, kann ich nicht angeben.

Translation: Having answered interrogatory No. 8 in the negative, my answer to this question is as follows:

406 The socket "Mix & Genest Exhibit No. 1" is in principal similar to the sockets, which have been manufactured by the firm of Mix & Genest; as to whether it is the same, I cannot say.

Tenth: To the tenth interrogatory he saith:

Das kann ich Beides nicht präzis beantworten. Das Fabrikat ist ungefähr in den Jahren 1900 oder 1901 in Quantitäten von nicht mehr als 20,000 Stück angefertigt und auf den Markt gebracht worden. Die Fabrikation ist wegen mangelnden Absatzes eingestellt.

Translation: I am not in a position to answer the questions precisely. The sockets were manufactured about the years 1900 or 1901 in quantities of not over 20,000 pieces and sold on the market. The manufacture was discontinued on account of lack of sales.

Eleventh: To the eleventh interrogatory he saith:

Mir ist nichts bekannt von den Umständen, die das Schreiben des Briefes, gezeichnet "Exhibit B," veranlasst haben, und ebensowenig bin ich an der Aufmachung und Unterzeichnung desselben beteiligt gewesen.

Translation: I have no knowledge of the circumstances which solicited the writing of the letter marked "Exhibit B," and I have also not participated in the preparation and signing of same.

Twelfth: To the twelfth interrogatory he saith:

Die Firma Mix & Genest hat eine Fassung, welche im Prinzip dem Muster "Mix & Genest Exhibit No. 2" entspricht, hergestellt und vertrieben. Ob das vorliegende Muster von Mix & Genest fabriziert worden ist, kann ich nicht sagen. Es ist schwer, mich über die Quantitäten zu äussern, aber ich glaube mich zu erinnern, dass das Modell seit 1900 in Quantitäten von nicht weniger als 50,000 Stück hergestellt und vertrieben worden ist.

Translation: The firm Mix & Genest has manufactured and sold a socket which corresponds in principal with the sample "Mix
407 & Genest Exhibit No. 2." As to whether this sample was manufactured by Mix & Genest, I cannot say. It is difficult to express myself as regards the quantities; however, I may say that this type was manufactured and sold since 1900 in quantities of not less than 50,000 pieces.

Thirteenth: To the thirteenth interrogatory he says:

Wie ich bereits erwähnte, sind es nach meinem Gedächtnis ungefähr 50,000 Stück. So weit ich mich erinnere, ist dieses Stück bis zu meinem Austritt angefertigt worden. Ob es jetzt noch von Mix & Genest fabriziert wird, weiss ich nicht.

Translation: As I already stated, according to my memory there were about 50,000 pieces manufactured and sold on the market. As far as I remember this socket has been manufactured up to the time of my leaving the firm. As to whether or not it is still being manufactured by Mix & Genest, I do not know.

Fourteenth: To the fourteenth interrogatory he saith:

Mir ist nichts bekannt, da mir der Prozess selbst und seine Ursachen nicht bekannt sind. Ich unterbreite einen Katalog unter dem Zeichen "Exhibit C," welcher zeigt, welche Sachen von der Firma Mix & Genest angefertigt sind, und zwar auf Seite 15 die Fassung "Mix & Genest Exhibit No. 1" unter No. 8. Die Kon-

struktion dieser No. 8 ist auf Seite 14 aus No. 7 Querschnitt ersichtlich. Auf Seite 11 ist illustriert eine Fassung "Mix & Genest Exhibit No. 2" unter No. 64, und die Konstruktion derselben ist ersichtlich aus der Abbildung des montierten Steines No. 64 auf derselben Seite. Die Swan Fassung ohne Hahn ist diejenige unter No. 8.

Translation: I know nothing more for the reason that the suit itself and its causes are unknown to me. I submit a catalogue marked "Exhibit C" which shows what articles have been
408 manufactured by Mix & Genest. On page 15 the socket "Mix & Genest Exhibit No. 1" is shown under No. 8. The construction of No. 8 is shown on page 14, "No. 7, Querschnitt." On page 11 socket "Mix & Genest Exhibit No. 2" is shown under No. 64, and the construction of same is shown under "Montierter Stein von No. 64" on the same page. The Swan socket without cock (Hahn) is the one under No. 8.

Cross-interrogatories:

Fifteenth: To the fifteenth cross interrogatory he saith:
Ja.
Translation: Yes.
Sixteenth: To the sixteenth cross interrogatory he saith:
Die an diesen Modellen vorgenommenen Aenderungen sind sehr minimaler Natur. Konstruktiv prinzipiell ist an "Mix & Genest Exhibit No. 1" meines Wissens überhaupt nichts geändert worden, vielleicht nur die Form der Anschlussklemmen oder das Material des Nippels. Bei "Mix & Genest Exhibit No. 2" ist die Form und die Konstruktion der inneren Isolation geändert, aber zu welcher Zeit, kann ich nicht sagen, etwa im Jahre 1904.
Translation: The changes to which these models were subjected are of a very insignificant nature. According to my knowledge nothing has at all been changed in the principal of the construction of "Mix & Genest Exhibit No. 1," perhaps only the shape of the binding clamps (Anschlussklemmen) or the material of the nipple (Nippel). As regards "Mix & Genest Exhibit No. 2" the shape and the construction of the inner insulation has been changed. I cannot say, however, at what time, somewhere about the year 1904.

(Signed) ALFRED HERMANNI.

409 AMERICAN CONSULATE-GENERAL,
Berlin, Empire of Germany:

I, A. M. Thackara, American Consul-General at Berlin, Germany, do certify that Alfred Hermanni, the witness, personally appeared before me on the fifteenth day of October, 1913, at 11 o'clock in the forenoon, at the American Consulate-General, Berlin, Germany, and after being affirmed to testify the truth, the whole truth, and nothing but the truth, did depose to the matters contained in the foregoing deposition and did in my presence subscribe the same and indorsed the exhibits annexed thereto. And I further certify that I have subscribed my name to each half sheet thereof and to each exhibit,

And I further certify that Richard Schultz appeared on behalf of the defendants and I further certify that the above translations are correct.

A. M. THACKARA,
Commissioner.

410 MARTIN KUBIERSCHKY, of Berlin, Germany, director of the Aktien-Gesellschaft Mix & Genest, aged 45 years and upwards, being duly and publicly affirmed, pursuant to the directions hereto annexed and examined on the part of the defendant doth depose and say as follows:

First: To the first interrogatory he saith:

Martin Kubierschky; 45 Jahre; Direktor der Aktien-Gesellschaft Mix & Genest; Gross-Lichterfelde-West Kommandantenstrasse 88.

Translation: Martin Kubierschky; 45 years; director of the Aktien-Gesellschaft Mix & Genest; Gross-Lichterfelde-West, Kommandantenstrasse 88.

Second: To the second interrogatory he saith:

Nein.

Translation: No.

Third: To the third interrogatory he saith:

Ich bin der Direktor der Aktien-Gesellschaft Mix & Genest, wie oben erwähnt.

Translation: I am the director of the Mix & Genest Company, as stated above.

Fourth: To the fourth interrogatory he saith:

Seit dem 1. Januar 1912.

Translation: Since January 1, 1912.

Fifth: To the fifth interrogatory he saith:

Alle Arten von Telephon- und elektrischen Signal-Apparaten, Wecker, Tableaux, Schwachstrom-Artikel in allgemeinen.

Translation: All sorts of telephone and electrical signal apparatus, alarm systems, switchboards and low-tension articles in general.

Sixth: To the sixth interrogatory he saith:

Beinahe in allen Ländern der Erde.

Translation: Almost in all the countries of the world.

Seventh: To the seventh interrogatory he saith:

411 Mir unbekannt, weil erst seit dem 1. Januar 1912 bei der Firma.

Translation: That is unknown to me, because I have been with the firm only since January 1, 1912.

Eighth: To the eight interrogatory he saith:

Von den Umständen, die des Schreiben veranlasst haben, ist mir nichts bekannt. Den Briefe habe ich mit unterschrieben, da er mir dem verantwortlichen Abteilungschef in dieser Form zur Unterschrift vorgelegt war.

Translation: I know nothing of the circumstances which gave rise to the letter. I attached my signature to the letter with others, because it was handed to me for my signature in this form by the responsible chief of the department.

Ninth: To the ninth interrogatory he saith:

Erledigt durch Antwort No. 8, da ich nichts weiss.

Translation: Settled by answer No. 8, because I know nothing.

Tenth: To the tenth interrogatory he saith:

Ich kann nur sagen, dass wir Starkstrom-Artikel ganz allgemein aufgegeben haben.

Translation: I can only say that we abandoned the manufacture of high-tension current articles in general.

Eleventh: To the eleventh interrogatory he saith:

An diesem Briefe bin ich nicht beteiligt gewesen und weiss über den Inhalt desselben noch seine materielle Grundlage irgend etwas.

Translation: I did not participate in drawing up this letter. I know nothing whatsoever of its contents nor of its material foundation.

Twelfth: To the twelfth interrogatory he saith:

Ich weiss von der ganzen Sache nichts.

Translation: I have no knowledge of the matter whatsoever.

Thirteenth: To the thirteenth interrogatory he saith:

412 Die Gründe für die Einstellung der Fabrikation sind interner Natur, und ich glaube nicht verpflichtet zu sein, diese anzugeben.

Translation: The reasons for the abandonment of the manufacture are of a private nature, and I do not believe myself obliged to state them.

Fourteenth: To the fourteenth interrogatory he saith:

Ich kann nur wiederholen: ich weiss garnichts.

Translation: I can only repeat, I know nothing.

Cross Interrogatories.

Fifteenth. To the fifteenth cross interrogatory he saith:

Nichts.

Translation: Nothing.

Sixteenth: To the sixteenth cross interrogatory he saith:

Erledigt durch meine Antwort auf Frage No. 15.

Translation: Settled by my answer to interrogatory No. 15.

(Signed) MARTIN KUBIERSCHKY.

AMERICAN CONSULATE-GENERAL,
Berlin, Empire of Germany:

I, A. M. Thackara, American Consul-General at Berlin, Germany, do certify that Martin Kubierschky, the witness, personally appeared before me on the seventeenth day of October, 1913, at 11:25 o'clock in the forenoon, at the American Consulate-General, Berlin, Germany, and after having been affirmed to testify the truth, the whole truth, and nothing but the truth, did depose to the matters contained in the foregoing deposition and did in my presence subscribe the same and indorse the exhibits annexed thereto. And I 413 further certify that I have subscribed my name to each half sheet thereof and to each exhibit. And I further certify that the above translations are correct.

A. M. THACKARA,
Commissioner.

I hereby certify that the following are translations into German of the interrogatories and cross-interrogatories which were propounded to the above witnesses.

A. M. THACKARA,
Commissioner.

Frage 1. Welches ist Ihr Name, Alter, Ihre Beschäftigung und Ihr Wohnsitz?

Frage 2. Haben Sie während oder in irgend einem der Jahre 1899, 1900, 1901, 1902 und 1903 bei der Aktiengesellschaft Mix & Genest, Berlin, Deutschland, eine Stellung als Vertreter oder Angestellter eingenommen? Und gegebenenfalls, welcher Art war dieselbe?

Frage 3. Haben Sie augenblicklich eine Position bei besagter Gesellschaft Mix & Genest, Berlin, Deutschland, als Vertreter oder Angestellter inne, und, gegebenenfalls, was für eine?

Frage 4. Wenn Ihre Antworten auf Fragen 2 & 3 bejahend gelautet haben, geben Sie bitte an, wie lange Sie mit Mix & Genest entweder als Vertreter oder Angestellter in Verbindung gestanden haben?

Frage 5. Bitte geben Sie an, welche Warengattungen von Mix & Genest angefertigt und auf den Markt gebracht werden.

Frage 6. Bitte geben Sie an, wenn Ihnen bekannt, ob die von Mix & Genest fabrizierten Waren ausserhalb des Deutschen Reiches verkauft worden sind und noch werden, oder nicht, und gegebenenfalls in welchen Ländern.

114 Frage 7. Sofern Ihnen bekannt, geben Sie bitte an, seit wie langer Zeit Mix & Genest sich mit der Fabrikation der in Ihrer Antwort auf Frage 5 erwähnten Warengattungen befasst haben.

Frage 8. Es wird Ihnen nun ein Originalbrief vorgelegt werden, der an Herrn Patentanwalt Carl Gustav Gsell adressiert, auf einem Briefbogen der Firma Mix & Genest geschrieben, vom 17. März 1913 datiert und im Namen dieser Gesellschaft mit zwei verbindlichen Unterschriften versehen ist, und ferner das Muster eines elektrischen Lampenfusses, resp. einer Montierung, welches jenem Briefe beigefügt war, und das "Mix & Genest Beweisstück No. 1" ausgezeichnet ist. Bitte geben Sie an, ob und was Ihnen über die Umstände, die das Schreiben dieses Briefes herbeigeführt haben, bekannt ist, und ob und wie weit Sie an der Anfmachung oder Unterzeichnung desselben beteiligt waren.

Frage 9. Wenn Sie die in besagtem Briefe vom 17. März 1913 festgelegten Tatsachen bestätigen und den Mix & Genest Fuss, resp. die Montierung, Beweisstück No. 1, als das darin erwähnte Produkt identifizieren können, geben Sie bitte an, auf welche Weise Sie die Tatsache, dass besagter Fuss, resp. die Fassung, von Mix & Genest während der Jahre 1899 bis 1903 fabriziert, und in Quantitäten verkauft worden ist, festgestellt, resp. als richtig befunden haben.

Frage 10. Bitte geben Sie an, wenn es Ihnen möglich ist, in was für Quantitäten das Mix & Genest Beweisstück No. 1 während dem von Ihnen bestätigten Zeitabschnitt fabriziert und auf den Markt

gebracht worden ist, und, wenn besagtes Lampenfuss-Modell nicht mehr angefertigt und verkauft wird, geben Sie bitte den Grund an, warum die Fabrikation, resp. der Verkauf, eingestellt ist.

Frage 11. Es wird Ihnen das Original eines zweiten Briefes vorgelegt werden, der an Herrn Patentanwalt Carl Gustav Gsell adressiert, vom 28. April 1913 datiert, auf dem Briefbogen von Mix & Genest geschrieben und im Namen dieser Gesellschaft mit
415 zwei verbindlichen Unterschriften versehen, ist, und ferner das Muster eines elektrischen Lampenfusses, resp. einer Fassung, welches diesem Brief beigefügt war, und das "Mix & Genest Beweisstück No. 2" ausgezeichnet ist. Bitte geben Sie an, ob und was Ihnen über die Umstände, die das Schreiben dieses Briefes veranlasst haben, bekannt ist, und ob, und wie weit Sie an der Aufmachung oder Unterzeichnung desselben beteiligt waren.

Frage 12. Wenn Sie die in besagtem Briefe vom 28. April 1913 festgelegten Tatsachen bestätigen und den Mix & Genest Fuss, resp. die Fassung, Beweisstück No. 2, als das darin bezeichnete Produkt identifizieren können, geben Sie bitte an, auf welche Weise Sie die Tatsache, dass besagter Fuss, resp. die Fassung, seit dem Jahre 1900 von Mix & Genest fabriziert und in Quantitäten verkauft worden ist, festgestellt, bezw. als richtig befunden haben.

Frage 13. Bitte geben Sie an, wenn es Ihnen möglich ist, in welchen Quantitäten das Mix & Genest Beweisstück No. 2 während des von Ihnen bestätigten Zeitraumes fabriziert und auf den Markt gebracht worden ist, und wenn besagter Fuss nicht mehr hergestellt und verkauft wird, bitte führen Sie den Grund zu der Einstellung der Fabrikation, bezw. des Verkaufes, an.

Frage 14. Ist Ihnen irgend etwas bekannt, oder können Sie etwas angeben, das den in diesem Prozess in Frage kommenden Parteien, oder einer derselben, zum Nutzen oder Vorteil gereichen könnte, oder das als Material zu dem Gegenstand Ihrer Aussage, oder den in diesem Prozess in Frage kommenden Angelegenheiten, dienen könnte, wenn ja, geben Sie dasselbe voll und ausführlich in Ihrer Antwort an?

Kreuzfrage 15. Sind Ihnen aus eigenem Wissen alle Aenderungen bekannt, die von Mix & Genest während der Jahre 1899, 1900, 1901, 1902 and 1903 an elektrischen Lampenfüssen, resp. Fassungen, gemacht worden sind?

Kreuzfrage 16. Wenn Ihre Antwort auf Kreuzfrage 15
416 bejahend verlief, bitte beschreiben Sie jedwede Aenderung, die an der Konstruktion der Mix & Genest Lampenfüsse, bezw. Fassungen, während besagter Jahre 1899 bis 1903 inkl. vorgenommen worden sind, unter möglichst genauer Angabe des Datums, wann jede Aenderung vorgenommen worden ist.

Berlin, Germany, October 30, 1913.

This is to certify that the foregoing is a true copy of the original document.

[SEAL.] A. M. THACKARA.
United States Consul-General and Commissioner.

No. 2203. Consular fee amounting to $10.75 equal to M. 45,65 paid by Carl Gustav Gsell for David P. Wolhaupter, attorney for Defendants.

[Cancelled Consular Fee Stamps amounting to $10.75 attached.]

DEFENDANT'S EXHIBIT CERTIFIED COPY APPLICATION RECORD OF PATENT IN SUIT.

2—390.

United States of America.

Department of the Interior.

United States Patent Office.

To all to whom these presents shall come, Greeting:

This is to certify that the annexed is a true copy from the Records of this Office of the File Wrapper and Contents in the matter of Letters Patent of August Weber, Sr., Number 743,206, granted November 3, 1903, for Improvement in Incandescent-Electric-Lamp Sockets.

417 United States Circuit Court, District of New Jersey.

In Equity.

WEBER ELECTRIC COMPANY, Complainant,

vs.

E. H. FREEMAN ELECTRIC CO., Defendant.

On Patent No. 743,206.

"Defendant's Exhibit, Certified Copy Application Record of Patent in Suit."

CHARLES E. RIORDON,
Special Examiner.

Feb. 14/10.

In testimony whereof I have hereunto set my hand and caused the seal of the Patent Office to be affixed at the City of Washington, this 12th day of February, in the year of our Lord one thousand nine hundred and ten and of the Independence of the United States of America the one hundred and thirty-fourth.

F. A. TENNANT,
Assistant Commissioner of Patents.

[SEAL.]

Amount received *ck. Y. $15.00. Chief Clerk.

*Red ink in copy.

*134,608.

Division 37, Paper No. *1½.

Dec. 11, 1902.

U. S. Patent Office.

418 *Petition.*

To the Commissioner of Patents:

Your petitioner, August Weber, Sr., a citizen of the United States, residing at Schenectady, county of Schenectady and State of New York, whose Post Office address is 633 Chapel St., Schenectady, N. Y., prays that Letters Patent may be granted to him for the improvements in Incandescent Electric Lamp Sockets set forth in the annexed specification; and he hereby appoints the firm of Mosher & Curtis of Troy, N. Y., consisting of George A. Mosher and Frank C. Curtis, his attorneys, with full power of substitution and revocation to prosecute this application, to make alterations and amendments thereto, to receive the patent, to sign the drawings, and to transmit all business in the Patent Office connected therewith.

Dated Troy, N. Y., December 3, 1902.

AUGUST WEBER, Sr.,

[SEAL.] *Inventor.*

Specification.

To all whom it may concern:

Be it known, that I, August Weber, Sr., a citizen of the United States, residing at Schenectady, county of Schenectady, and State of New York, have invented certain new and useful improvements in Incandescent Electric Lamp Sockets of which the following is a specification:

The invention relates to such improvements and consists of the novel construction and combination of parts hereinafter described and subsequently claimed.

419 Reference may be had to the accompanying drawings, and the reference characters marked thereon, which form a part of this specification. Similar characters refer to similar parts in the several figures therein.

Fig. 1 of the drawings is a view partly in side elevation and partly in central vertical section of a key-socket for incandescent electric lamps, embodying my invention.

Fig. 2 is a view in side elevation of the same with the cap removed and showing the handle-end of the key.

*Red ink in copy.

Fig. 3 is a view partly in side elevation and partly in central vertical section of a keyless socket embodying my invention.

The principal object of my invention is to provide a simple and effective automatically looking connection between the sleeve and cap of an incandescent electric lamp socket.

Other objects of the invention will appear in connection with the following description.

My invention is applicable to various telescopically connecting members, but is especially adapted for use in the telescopically connecting cap and sleeve members of incandescent electric lamp sockets; and I have illustrated in the drawings its use in such connection.

In carrying out the principal feature of the invention, the inner telescoping member is made compressible, and the telescopically connecting members are provided [*in the manner hereinafter described] with interengaging parts adapted to automatically
420 interlock with a snap-action when telescopically applied to each other, and to be released by compression of said inner member.

Referring to Figs. 1 and 2 of the drawings, 1 is the sleeve-member, and 2 the cap-member of the case of a key-socket for incandescent electric lamps, both of said members being preferably formed of resilient sheet-metal.

The case thus formed is adapted to contain the insulating base, 3, upon which is mounted the screw-socket, 4, fixedly connected therewith and adapted to receive the screw-threaded shank of an incandescent electric lamp, and the key, 5, rotary in the hanger-bearing, 6 operatively connected with the switchblock, 7, adapted to make and break connection between the metal screw-socket, 4, which connects with one of the lamp-terminals, and the spring, 8, having a connection (not shown) with one of the circuit wires, 9, the other of the circuit-wires, 9, having a connection (not shown) with the spring-arm, 10, projecting interiorly of the screw-socket through an aperture, 11, in the wall thereof, and adapted to contact with the other lamp-terminal, all in the usual well known manner.

I have not shown in detail the construction of the switch-mechanism, nor such parts of the electrical connections as are concealed in the base 3, the manner of constructing and connecting such parts being well known to those skilled in the art.

The insulating base, 3, is made to fit loosely within the sleeve, 1, which is made compressible by means of the slot, 12, formed in the inner end thereof to receive the shaft of the key, 5.
421 On opposite sides of this slot, are formed projections, 14, on the exterior of the sleeve near its inner end, as by slitting the sheet-metal at right angles to the slot, 12, and forcing outwardly a portion of the metal shell on the inner side of such slit, the projection thus formed terminating abruptly at its outer end [*at said slit]

*Copy inserted Per A.

and inclining inwardly therefrom toward the inner end of the sleeve, as shown.

The cap, 2, is provided with apertures, 13, arranged to correspond with the position of the projections, 14, and adapted to receive said projections respectively when the parts are telescopically applied to each other.

The sleeve being compressible, and said projections beveled or inclined from the inner end of the sleeve toward their outer ends whereat they terminated abruptly, the cap can be telescopically applied to the slotted end of the sleeve, and when the apertures, 13, in the cap are brought opposite the respective projections, 14, on the sleeve, the parts will automatically interlock with a snap-action.

The abruptly terminating ends of said projections effectually prevent accidental separation of the cap from the sleeve; but when it is desired to separate said members, it is only necessary to compress the sleeve until said projections are withdrawn from the apertures in the cap.

The connected members themselves thus provide the means whereby they are locked together, dispensing with the use of screws or other additional parts for that purpose.

If desired the loosely fitting insulating base, 3, may be
422 supported within the sleeve by means of one or more tongues 15, formed by slitting and bending inwardly portions of the sleeve-wall adapted to engage said base, which may be provided with a groove or recess, 16, adapted to receive the several tongues.

In Fig. 3 I have shown a keyless socket, the sleeve, 17, being provided with no slot for a key, but with a narrow slot 18, adapted to render the inner end of the sleeve compressible.

The cap, 19, is provided with inward projections, 20, inclined inwardly toward, and terminating abruptly at, their inner ends [*where at the shell is slitted], and adapted to enter apertures, 21, formed in the sleeve by cutting and introverting portions thereof to form tongues, 22, which enter grooves or recesses, 23, in the inclosed, loosely fitting, insulating base, 24, to assist in supporting the same within the sleeve and to prevent rotative movement between said sleeve and base when a lamp is being inserted in or removed from the screw-socket, 25, fixedly connected to said base.

The screw-socket, 25, and contact arm, 26, are connected with the circuit-wires, 9, in the usual manner, the connections being not shown.

The socket-sleeve may be provided with a bushing or lining of insulating material, 27.

What I claim as new and desire to secure by Letters Patent is

Canceled Per A.

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1. In a device of the class described, and in combination, a compressible resilient inner member; and an outer member adapted

*Copy inserted Per A.

to telescopically receive said inner member, said members
423 having interengaging parts adapted to automatically inter-
lock with a snap-action when telescopically applied to each
other, and to be released by compression of said inner member.

2. In a device of the class described, and in combination, an inner resilient, split, tubular member, and an outer member adapted to telescopically receive said split member, said members having interengaging parts adapted to automatically interlock with a snap-action when telescopically applied to each other, and to be released by compression of said inner member.

[Matter enclosed between rules erased in copy.]

[3.] 1. In a device of the class described, the combination with a pair of members comprising a sheet metal sleeve having a slotted end and introverted tongues, and a cap adapted to telescopically receive the slotted end of said sleeve, said members having interengaging parts adapted to automatically interlock with a snap-action when telescopically applied to each other, and to be released by compression of said sleeve; of an insulating base for electrical fittings loosely inclosed within said sleeve in engagement with said tongues, substantially as described.

Canceled Per A.

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4. In a device of the class described, the combination with a sheet metal sleeve slotted at one end and having its other end adapted to receive the base of an incandescent electric lamp; of means for connecting the terminals of said lamp in an electric circuit; switch
mechanism contained within said sleeve adapted to open and
424 close said circuit; a switch-operating key projecting through
said slot in the shell; a cap adapted to fit upon the slotted end of said shell; said cap and sleeve having interengaging parts adapted to automatically interlock with a snap-action when telescopically applied to each other, and to be released by compression of said inner member, substantially as described.

[Matter enclosed between rules erased in copy.]

[*5.] 2. In a device of the class described, the combination with a base of insulating material having a peripheral recess; and an incandescent lamp support mounted thereon; of an inclosing case therefor comprising in part a sheet metal sleeve having a portion of its wall introverted to occupy said base-recess, substantially as described.

[*6.] 3. In a device of the class described, the combination with

*Copy inserted Per A.

base of insulating material having a peripheral recess; and a screw-socket fixedly mounted thereon; of an inclosing case therefor comprising in part a sheet-metal sleeve having a portion of its wall introverted to occupy said base-recess and prevent a relative rotative movement between said sleeve, base and socket, substantially as described.

[*7.] 4. In a device of the class described, and in combination a pair of members comprising a sheet-metal sleeve having a slotted end, and a sheet-metal cap adapted to telescopically receive the slotted end of said sleeve, one of said members being provided with a recess, and the other having a correspondingly located [*transverse slit and the wall on one side thereof displaced to form a] projection beveled or inclined toward said recessed member and ter-
425 minating abruptly [*at said slit] whereby said members are adapted to automatically interlock with a snap-action when telescopically applied to each other, and to be released by [*manual] compression of said slotted sleeve, substantially as described.

[*8.] 5. In a device of the class described, the combination with a compressible sleeve having portions of its wall cut and introverted to form tongues; of an insulating base for electrical fittings loosely inclosed within said sleeve in engagement with said tongues; and a cap having inwardly projecting members adapted to enter the apertures formed in the sleeve by the introversion of said tongues, whereby said cap and sleeve are locked together and adapted to be released by compression of said sleeve, substantially as described.

In Testimony Whereof, I have hereunto set my hand this 3d day of December, 1902.

AUGUST WEBER, SR.,
Inventor.

Witnesses:
WALTER BRIGGS.
S. H. VISSCHER.

426 *Oath.*

STATE OF NEW YORK,
County of [Rensselaer] Schenectady, ss:*

August Weber, Sr., the above named petitioner, being duly sworn, doth depose and say that he is a citizen of the United States, and resident of Schenectady, county of Schenectady, and State of New York; and that he verily believes himself to be the original, first and sole inventor of the improvement in Incandescent Electric Lamp Sockets described and claimed in the annexed specification; that he does not know and does not believe that the same was ever known or used before his invention or discovery thereof; or patented or described in any printed publication in any country before his invention or discovery thereof, or more than two years prior to this application; or in public use or on sale in the United States for more

*Copy inserted Per A.

than two years prior to this application; and that no application for a patent for said improvement has been filed by him, or his representatives or assigns in any foreign country.

AUGUST WEBER, SR.,
Inventor.

Sworn to and subscribed before me this 3d day of December, 1902.

WALTER BRIGGS,
Notary Public.
*Schenectady County [Troy, N. Y.]**

[Notarial Seal.]

427 [Endorsement on back.]

United States Patent Office. Application of August Weber, Sr. Improvement in Incandescent Electric Lamp Sockets. Petition, Oath and Specification. Registered No. 1085. Mail Room, Dec. 10, 1902, U. S. Patent Office.

428 Div. —. Room 89 J.

Address only The Commissioner of Patents, Washington, D. C.

Paper No. 1.

All communications respecting the application should give the serial number, date of filing, and title of invention.

Department of the Interior,

United States Patent Office.

Washington, D. C., Jan. 12, 1903.

August Weber, Sr.,
C/o Mosher & Curtis,
Troy, N. Y.

Mailed Jan. 12, 1903.

Please find below a communication from the Examiner in charge of your application, No. 134,608, filed Dec. 10, 1902, for Incandescent Electric Lamp Sockets.

F. I. ALLEN,
[E. B. MOORE,]*
Commissioner of Patents.

Claims 1, 2, 4 and 7 are rejected on the patent to Oetting, 642,825, Feb. 6, 1900, or to Kenney, 712,686, Nov. 4, 1902, Sockets and Keys.

Claims 3, 5, 6 and 8 appear to be allowable.

A. F. KINNAN, *Ex.*

W. J. S.

[*Words enclosed in brackets erased in copy.]

429 *Div. 37, Paper No. 2.
*A.

Mail Room,
Mar. 30, 1903,
U. S. Patent Office.

Application of August Weber, Sr. Filed Dec. 10, 1902. No. 134,608.
Incandescent Electric Lamp Sockets.

Last Office action Jan. 12, 1903.

Troy, N. Y., March 27, 1903.

Commissioner of Patents.

SIR:

The above application is hereby amended as follows:

Line 7, from the bottom of page 2, *immediately after* "provided" insert the words, *in the manner hereinafter described.*

Line 2, *from the bottom of page 3, immediately after* "end" insert the words, *"at said slit."*

Last line, page 4, *immediately after "ends" insert the* words, *whereat the shell is slitted.*

Erase claims 1, 2 and 4, and change the numbers of the *remaining claims accordingly.*

Claim 4, formerly 7, line 6, immediately after "located" insert the words, *transverse slit and the wall on one side thereof displaced to form a.*

Same claim, line 7, immediately after "abruptly" insert the words, *at said slit.*

Same *claim, line* 10, *immediately before the word* "compression" insert, *manual.*

Respectfully,

MOSHER & CURTIS,
Att'ys, &c.

430 *Remarks.*

Claim 4, originally 7, is now drawn to a specific structure having advantages not found in either of the references cited. By transversely slitting the sheet metal shell and displacing the wall on one side of said slit to form a beveled or inclined projection the parts are permitted to be applied to each other by simply inserting one within the other without manually compressing the inner member, but when the parts have once interlocked with the snap action, the abrupt abutment formed by the displaced wall adjacent to said slit effectually prevents the separation of the members until the inner member has been forcibly compressed by the hand of the operator. Accidental or unintentional separation of the members is practically impossible.

*Red ink in copy.

In the Oetting construction the parts cannot be locked together by simple telescopic movement, it being necessary to manually depress the three catches, 6—that is, at the same time the operator is applying the cap to the sleeve, he must engage each of these catches or tongues with one of his fingers and simultaneously press all three inwardly until the catches are so depressed that the cap can pass down over them. Furthermore, the slits whereby the tongues, 6, are formed materially weaken the shell of the socket.

In the Kenney construction the studs 6′ are formed by simple indentations in the sheet metal having no abrupt termination at either end to resist unlocking, such as is formed at the slitted end of the inclined projections in applicant's device. Kenney's
431 device is adapted to unlock by simply rotating one member upon another in the same manner that the parts are locked together, no manual compression of the inner member being necessary. Kenney recognizes this liability of his device to become unlocked under the strain incidental to the pull upon the switch-key in lines 22 to 28, page 1 of his patent, and he provides additional means in the form of pins N to reinforce the other locking mechanism to adapt the device for a key-socket, that being substantially the only difference between the patent referred to and his companion patent No. 712,685 for keyless sockets. Applicant's device can only be unlocked by designedly compressing the inner sleeve member.

Respectfully,

MOSHER & CURTIS, *Att'ys.*

432 Issue Division.

All communications should be addressed to "The Commissioner of Patents, Washington, D. C."

Serial No. 134,608.

Department of the Interior,

United States Patent Office.

Washington, D. C., Apr. 21, 1903.

August Weber, Sr.,
C/o Mosher & Curtis,
Troy, N. Y.

SIR:

Your application for a patent for an improvement in incandescent electric lamp sockets filed Dec 10th, 1902, has been examined and allowed.

The final fee, Twenty Dollars, must be paid, and the Letters Patent bear date as of a day not later than six months from the time of this present notice of allowance.

If the final fee is not paid within that period the patent will be withheld, and your only relief will be a renewal of the application, with additional fees, under the provisions of Section 4897, Revised

Statutes. The office aims to deliver patents upon the day of their date, and on which their term begins to run; but to do this properly applicants will be expected to pay their final fees at least twenty days prior to the conclusion of the six months allowed them by law. The printing, photolithographing and engrossing of the several patent parts, preparatory to final signing and sealing, will consume the intervening time, and such work will not be done until after payment of the necessary fees.

433 When you send the final fee you will also send, distinctly and plainly written, the name of the inventor and title of invention as above given, date of allowance (which is the date of this circular), date of filing, and, if assigned, the names of the assignees.

If you desire to have the patent issue to Assignees, an assignment containing a request to that effect, together with the fee for recording the same, must be filed in this office on or before the date of payment of final fee.

[In remitting the final fee give the serial number at the head of this notice.]

If payment is made by check or draft, the credit thereof is subject to the collection of the same.

After issue of the patent uncertified copies of the drawings and specifications may be purchased at the price of 5 cents each. The money should accompany the order. Postage stamps will not be received.

Respectfully,

F. I. ALLEN,
Commissioner of Patents.

After allowance, and prior to payment of the final fee, applicants should carefully scrutinize the description to see that their statements and language are correct, as mistakes not incurred through the fault of the office, and not affording legal grounds for reissues, will not be corrected after the delivery of the letters patent to the patentee or his agent.

434 Issue Division.

All communications should be addressed to "The Commissioner of Patents, Washington, D. C."

Serial No. 134,608.

Department of the Interior,

United States Patent Office.

[*$20. —] Received.
[*CK.] Oct.
[*F] 15.
1903.

Chief Clerk U. S. Patent Office.

Washington, D. C., Apr. 21, 1903.

August Weber, Sr.,
C/o Mosher & Curtis,
Troy, N. Y.

SIR:

Your application for a patent for an improvement in incandescent electric lamp sockets filed Dec. 10, 1902, has been examined and allowed.

The final fee, Twenty Dollars, must be paid, and the Letters Patent bear date as of a day not later than six months from the time of this present notice of allowance.

If the final fee is not paid within that period the patent will be withheld, and your only relief will be by a renewal of the application with additional fees, under the provisions of Section 4897, Revised Statutes. The office aims to deliver patents upon the day of their date, and on which their term begins to run; but to do this properly applicants will be expected to pay their final fees at least twenty days prior to the conclusion of the six months allowed them by law. The printing, photolithographing, and engrossing
435 of the several patent parts, preparatory to final signing and sealing, will consume the intervening time, and such work will not be done until after payment of the necessary fees.

When you send the final fee you will also send, distinctly and plainly written, the name of the inventor and title of invention as above given, date of allowance (which is the date of this circular), date of filing, and, if assigned, the names of the assignees.

If you desire to have the patent issue to assignees, an assignment containing a request to that effect, together with the fee for recording the same, must be filed in this office on or before the date of payment of final fee.

[In remitting the final fee give the serial number at the head of this notice.]

If payment is made by check or draft, the credit allowed is subject to the collection of the same.

After issue of the patent uncertified copies of the drawings and

*Red ink in copy.

specifications may be purchased at the price of 5 cents each. The money should accompany the order. Postage stamps will not be received.

Respectfully,

F. I. ALLEN,
Commissioner of Patents.

After allowance, and prior to payment of the final fee, applicants should carefully scrutinize the description to see that their statements and language are correct, as mistakes not incurred through the fault of the office, and not affording legal grounds for reissues, will not be corrected after the delivery of the letters patent to the patentee or his agent.

436 Issue and Gazette Division.

All communications should be addressed to "The Commissioner of Patents, Washington, D. C."

Serial No. 134,608.

Department of the Interior,

United States Patent Office.

Washington, D. C., Oct. 15, 1903.

August Weber, Sr.,
C/o Mosher & Curtis,
Troy, N. Y.

SIR:

Your application for a patent for an improvement in Incandescent Electric Lamp Sockets filed Dec. 10, 1902, has been examined and again allowed.

The final fee, twenty dollars, in the above-entitled case was received Oct. 15, 1903.

Very respectfully,

F. I. ALLEN,
Commissioner of Patents.

437 Number (Series of 1900).
[*134,608]

1902.

Div. 37,
(Ex'r's Book). 21
3

Patent No. 743,206.

Name, August Weber, Sr., of Schenectady, County of Schenectady, State of New York.
Invention, Incandescent Electric Lamp Sockets.
Division of App., No. —, field —— —, 190—.

Parts of Application Filed.

October 15, 1903.

Original.			Renewed.
Petition	Dec. 10	, 1902	, 190
Affidavit	" "	, 1902	, 190
Specification	" "	, 1902	, 190
Drawing	" "	, 1902	, 190
Model or Specimen none		, 190	, 190
First Fee Cash $15.	Dec. 10	, 1902	, 190
1			
" " Cert.		, 190	, 190
Appl. filed complete	Dec. 10	, 1902	, 190
Examined A. F. Kinnan Ex. Apr. 17, 1903			, 190
Countersigned J. W. Babson			, 190
4—18—1903 For Commissioner.		For Commissioner.	
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Patented November 3,			, 1903.
2			

Associate Attorney.
Attorney, Mosher & Curtis, Troy, New York.
Name —— ——
Serial No. —
Patent No. —
Date of Patent —

438 176, Electric Lighting.
Lights. Sockets and keys.

1902.

Contents.

Print.
Application papers.
1. Rejection Jan. 12, 1903.
2. [*Amdt. A—Mch. 30, 1903]

*Red ink in copy.

3.
4.
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20.
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23.

Title.

Improvement in Incandescent Electric Lamp Sockets.

O. W.
E. K.

No. 743,206. Patented November 3, 1903.

UNITED STATES PATENT OFFICE.

AUGUST WEBER, SR., OF SCHENECTADY, NEW YORK.

INCANDESCENT-ELECTRIC-LAMP SOCKET.

SPECIFICATION forming part of Letters Patent No. 743,206, dated November 3, 1903.

Application filed December 10, 1902. Serial No. 134,608. (No model.)

To all whom it may concern:

Be it known that I, AUGUST WEBER, Sr., a citizen of the United States, residing at Schenectady, county of Schenectady, and State of New York, have invented certain new and useful Improvements in Incandescent-Electric-Lamp Sockets, of which the following is a specification.

The invention relates to such improvements; and it consists of the novel construction and combination of parts hereinafter described and subsequently claimed.

Reference may be had to the accompanying drawings, and the reference characters marked thereon, which form a part of this specification.

Similar characters refer to similar parts in the several figures.

Figure 1 of the drawings is a view, partly in side elevation and partly in central vertical section, of a key-socket for incandescent electric lamps embodying my invention. Fig. 2 is a view in side elevation of the same with the cap removed and showing the handle end of the key. Fig. 3 is a view, partly in side elevation and partly in central vertical section, of a keyless socket embodying my invention.

The principal object of my invention is to provide a simple and effective automatically-locking connection between the sleeve and cap of an incandescent-electric-lamp socket.

Other objects of the invention will appear in connection with the following description.

My invention is applicable to various telescopically-connecting members, but is especially adapted for use in the telescopically-connecting cap and sleeve members of incandescent-electric-lamp sockets, and I have illustrated in the drawings its use in such connection.

In carrying out the principal feature of the invention the inner telescoping member is made compressible, and the telescopically-connecting members are provided, in the manner hereinafter described, with interengaging parts adapted to automatically interlock with a snap action when telescopically applied to each other and to be released by compression of said inner member.

Referring to Figs. 1 and 2 of the drawings, 1 is the sleeve member, and 2 the cap member, of the case of a key-socket for incandescent electric lamps, both of said members being preferably formed of resilient sheet metal. The case thus formed is adapted to contain the insulating-base 3, upon which is mounted the screw-socket 4, fixedly connected therewith and adapted to receive the screw-threaded shank of an incandescent electric lamp, and the key 5, rotary in the hanger-bearing 6, operatively connected with the switch-block 7, adapted to make and break connection between the metal screw-socket 4, which connects with one of the lamp-terminals, and the spring 8, having a connection (not shown) with one of the circuit-wires 9, the other of the circuit-wires 9 having a connection (not shown) with the spring-arm 10, projecting interiorly of the screw-socket through an aperture 11 in the wall thereof and adapted to contact with the other lamp-terminal, all in the usual well-known manner.

I have not shown in detail the construction of the switch mechanism nor such parts of the electrical connections as are concealed in the base 3, the manner of constructing and connecting such parts being well known to those skilled in the art.

The insulating-base 3 is made to fit loosely within the sleeve 1, which is made compressible by means of the slot 12, formed in the inner end thereof to receive the shaft of the key 5. On opposite sides of this slot are formed projections 14 on the exterior of the sleeve near its inner end, as by slitting the sheet metal at right angles to the slot 12 and forcing outwardly a portion of the metal shell on the inner side of such slit, the projection thus formed terminating abruptly at its outer end at said slit and inclining inwardly therefrom toward the inner end of the sleeve, as shown.

The cap 2 is provided with apertures 13, arranged to correspond with the position of the projections 14 and adapted to receive said projections, respectively, when the parts are telescopically applied to each other. The sleeve being compressible and said projections beveled or inclined from the inner end of the sleeve toward their outer ends, whereat they terminate abruptly, the cap can be telescopically applied to the slotted end of the sleeve, and when the apertures 13 in the cap

are brought opposite the respective projections 14 on the sleeve the parts will automatically interlock with a snap action. The abruptly-terminating ends of said projections effectually prevent accidental separation of the cap from the sleeve; but when it is desired to separate said members it is only necessary to compress the sleeve until said projections are withdrawn from the apertures in the cap. The connected members themselves thus provide the means whereby they are locked together, dispensing with the use of screws or other additional parts for that purpose.

If desired, the loosely-fitting insulating-base 3 may be supported within the sleeve by means of one or more tongues 15, formed by slitting and bending inwardly portions of the sleeve-wall adapted to engage said base, which may be provided with a groove or recess 16, adapted to receive the several tongues.

In Fig. 3 I have shown a keyless socket, the sleeve 17 being provided with no slot for a key, but with a narrow slot 18, adapted to render the inner end of the sleeve compressible. The cap 19 is provided with inward projections 20, inclined inwardly toward and terminating abruptly at their inner ends, whereat the shell is slitted, and adapted to enter apertures 21, formed in the sleeve by cutting and introverting portions thereof to form tongues 22, which enter grooves or recesses 23 in the inclosed loosely-fitting insulating-base 24 to assist in supporting the same within the sleeve within said sleeve in engagement with said tongues, substantially as described.

2. In a device of the class described, the combination with a base of insulating material having a peripheral recess; and an incandescent-lamp support mounted thereon; of an inclosing case therefor comprising in part a sheet-metal sleeve having a portion of its wall introverted to occupy said base-recess, substantially as described.

3. In a device of the class described, the combination with a base of insulating material having a peripheral recess; and a screw-socket fixedly mounted thereon; of an inclosing case therefor comprising in part a sheet-metal sleeve having a portion of its wall introverted to occupy said base-recess and prevent a relative rotative movement between said sleeve, base and socket, substantially as described.

4. In a device of the class described, and in combination a pair of members comprising a sheet-metal sleeve having a slotted end, and a sheet-metal cap adapted to telescopically receive the slotted end of said sleeve, one of said members being provided with a recess, and the other having a correspondingly-located transverse slit and the wall on one side thereof displaced to form a projection beveled or inclined toward said recessed member and terminating abruptly at said slit, whereby said members are adapted to automatically interlock with a snap action when telescopically applied to each other.

443 United States District Court, District of New Jersey.

In Equity. No. 743,206.

WEBER ELECTRIC COMPANY, Complainant,

vs.

E. H. FREEMAN ELECTRIC COMPANY, Defendant.

Depositions of Witnesses.

Testimony in Behalf of Defendant Taken under the Order Entered March 1, 1915, Pursuant to Notice and Agreement of Counsel, before I. V. Curran, Notary Public, at the Office of Parkinson & Lane, 1520 Marquette Building, Chicago, Illinois, Commencing March 11, 1915, at 10:30 A. M.

Appearances: Robert M. See, for Defendant; Frank C. Curtis, for Complainant.

REUBEN B. BENJAMIN, being first duly sworn, testifies as follows:

Direct examination.

By Mr. See:

Question 1. Please state your name, residence and occupation?
Answer. Reuben B. Benjamin, 4113 Gladys Avenue; manufacturer.

444 Q. 2. Please state with what company you are connected and in what capacity?
A. Benjamin Electric Mfg. Co. as president.
Q. 3. I hand you a copy of U. S. patent No. 575,322, issued Jan. 19, 1897, to Reuben B. Benjamin, of Chicago, Illinois, and ask if you are the R. B. Benjamin to whom this patent issued?
A. I am.

The patent just identified by the witness is introduced in evidence and the notary is requested to mark it as "Defendant's Exhibit, Benjamin Patent No. 575,322."

Q. 4. Please state whether or not you now own this Benjamin patent?
A. I do not.
Q. 5. Please state to whom and about when you assigned it?
A. The patent was assigned to the General Electric Co. either late in 1897 or early in January of 1898.
Q. 6. I hand you a copy certified by the Acting Commissioner of Patents, of the record of a certain instrument of writing and ask

you to state whether you believe this to be a true copy of your assignment of the Benjamin patent to the General Electric Co.?

A. To the best of my belief, this is a true copy of said instrument.

The certified copy of the assignment which the witness has just identified is introduced in evidence as "Defendant's Exhibit, Assignment of Benjamin Patent No. 575,322 to General Electric Co.," and the Notary is requested to so mark it.

Q. 7. What was your occupation at the time the Benjamin
445 patent No. 575,322, was issued, Jan. 19, 1897, and when it was assigned on Dec. 22, 1897?

A. I was in the employ of the Metropolitan West Side Elevated Railroad Co. in charge of repairs and up-keep of the electrical apparatus pertaining to the stations over the system.

Q. 8. Prior to your assignment of this Benjamin patent to the General Electric Co., did you ever manufacture sockets made in substantial accordance with the Benjamin patent No. 575,322, referring especially to Figs. 1, 2 and 3 of the patent drawings?

A. I did.

Q. 9. Please state how, if at all, the sockets which you made prior to the assignment differed from the illustration in the drawings?

A. There were two essential differences in construction as actually manufactured—one in the insulating base to facilitate molding consisting in extending the side openings into the openings in the rear so that the piece could be molded with a vertical movement of the dies; the other principal difference was in the cap which was constructed of sheet metal with a threaded bushing inserted in the center and the large end threaded on the inside to receive the threaded end of the shell. The cap had two depressions to co-operate with the cavities in the porcelain base in very much the same position as those shown in the illustration, but if anything, separated a little more than that shown.

Q. 10. I hand you a socket and ask whether or not this socket corresponds with those which you manufactured in 1897?

A. To the best of my belief, it does.

Q. 11. Is there anything about this socket which leads you to believe that it is one of the old sockets made by you prior to your assignment of the Benjamin patent?

A. I would not be able to identify it as such, although it
446 appears to be made in precisely the same manner as those which I manufactured.

Q. 12. Is it usual in socket construction to have the threads into which the lamp itself is screwed molded in the porcelain?

A. No, it was not very good practice.

Q. 13. In the old sockets which you manufactured, were these threads molded in the porcelain, or was a threaded shell secured in the lamp receiving end of the porcelain?

A. They were molded in the porcelain.

The socket handed to the witness in Q. 10, and concerning which he has been testifying in the following questions after Q. 10, is intro-

duced in evidence, as "Defendant's Exhibit, Benjamin Socket," and the notary is requested to so mark it.

By Mr. Curtis: Objected to as not properly or sufficiently proved or identified.

Q. 14. Please state why, in "Defendant's Exhibit, Benjamin Socket," and in the sockets which you made in 1897, the cap is indented or introverted into recesses in the porcelain base?

A. The object was to prevent the base from turning with respect to the cap, in placing and removing the lamps.

Q. 15. When the socket was installed and ready to receive a lamp, the two halves of the casing were united, were they, so that the porcelain base could not rotate with respect to the two-part casing?

By Mr. Curtis: Objected to as leading.

A. This would be true so far as the actions of inserting or removing the lamp were concerned.

447 Q. 16. Please state briefly who made and assembled the sockets which you made prior to your assignment of the Benjamin patent?

A. The two-part outer casing was made by the David J. Baum Mfg. Co. of this city. The porcelain was made by the Imperial Porcelain Works of Trenton, New Jersey. The metal stampings for the contacts were made by Coller Bros. and formed and the screw holes tapped principally by myself and by Mr. William H. Scott. The assembling was done by us both mostly.

Q. 17. Please state who you mean by "us" in the last answer?

A. By William H. Scott and myself.

Q. 18. Where did you and Mr. Scott do the work of assembling these sockets?

A. Some of the work was done at my home and some in the basement of the Terminal Building of the Metropolitan West Side Elevated Railroad Co. on Market Street.

Q. 19. Can you state approximately how many of these sockets like "Defendant's Exhibit, Benjamin Socket," you manufactured prior to your assignment of the Benjamin patent?

A. I do not know the quantity—there must have been several thousands of sockets made such as we were manufacturing.

Q. 20. Were these sockets which you made at that time sold, and if so, please name any purchasers that you can?

A. Some of the earlier sales were made to the Union Elevated Railway Co. of this city and were installed in the stations in the Loop. Sales were made to some jobbers—some goods were sold to the Metropolitan West Side Elevated Railway Co. and the Chicago City Elevated Railways Co., and the street railway company controlled by the Yerkes crowd.

448 Q. 21. Please state briefly what you mean by the word "Loop" in referring to the elevated railway in Chicago?

A. The stations on the Union Loop of the elevated system.

Q. 22. Is this the down-town Loop over which the trains of the different lines make a circuit in coming into and departing from the down-town district?

A. It is.

Q. 23. Please state, if you can, when you sold these sockets concerning which you have testified to the companies which were then in control of the elevated lines and the Loop of the elevated system?

A. Principally during the year 1897.

Q. 24. When you sold these sockets to the elevated system, were the Metropolitan trains running around the Loop?

A. I am not positive whether the first sales were made prior or after the opening of the Loop, but it was about that time as they were installed as part of the lighting equipment of the Loop stations.

Q. 25. How was the Metropolitan Elevated structure connected with the elevated Loop?

A. By means of a structure extending from the original line of the elevated south in Market Street and east over Van Buren Street, connecting with the Loop at Fifth Avenue.

Q. 26. Is there a station on this connection known as the Franklin Street station?

A. There is.

Q. 27. Was this connection between the old Metropolitan Elevated Railroad Terminal and the Loop built at the time of the construction of the Loop?

A. I believe it was about the same time.

Q. 28. Were these sockets like "Defendant's Exhibit, Benjamin Socket," installed as part of the original lighting equipment at the time of the construction of the Loop, and the connection between the Metropolitan Road and the Loop?

449 A. I believe they were.

Q. 29. Were these sockets sold to the elevated roads at Chicago prior to your assignment of the Benjamin patent, No. 575,322, to the General Electric Co.?

A. They were.

Q. 30. Can you state when, approximately, the Loop of the elevated system and the Metropolitan connection therewith, were constructed?

A. I would say it was the latter part of 1897.

Q. 31. Do you know whether these sockets were sold and installed at the stations on the Loop and on the Metropolitan connection therewith before Metropolitan trains started running around the Loop?

By Mr. Curtis: Objected to as leading.

A. I cannot state positively, as sometimes trains are operated with temporary lighting before the permanent lighting is completely installed.

Q. 32. In such case, would the temporary lighting be left for any considerable period of time after the stations were being publicly used?

By Mr. Curtis: Objected to as leading, and further as calling for a mere matter of opinion in the absence of inquiry of some specific instance.

Question withdrawn.

Q. 32½. You have stated that in 1897 you were in the employ of the Metropolitan Elevated Railway Co., and I ask whether or not you remember or believe your sockets were installed on the Metropolitan connection and on the Loop at about the time Metropolitan trains started to use the Loop?

450 By Mr. Curtis: What the witness believes and anything he may state except what he actually remembers is objected to as hearsay and not the best evidence. Furthermore, the question is objected to for the reason that the witness has already twice testified that he cannot be certain of the facts inquired about.

A. To the best of my recollection, they were.

Q. 33. Please state whether or not these sockets were used in the lighting fixtures of the public stations of the elevated railroad system in Chicago?

A. In some stations.

Q. 34. Were the stations indicated by your last answer public stations of the elevated railroad system?

A. They were.

Q. 35. Please state, if you can, whether you made and sold any sockets like "Defendant's Exhibit, Benjamin Socket," prior to the issuance of the Benjamin patent, No. 575,322, on Jan. 19, 1897?

A. I am of the opinion that some sales were made prior to that date.

Q. 36. Please state, if you know, whether or not the General Electric Co. made and sold sockets like "Defendant's Exhibit, Benjamin Socket," after you assigned the Benjamin patent to that company?

A. I believe that they did—for a short time.

Q. 37. Please state what you mean by "a short time"?

A. Shortly after making the sale of the patent, I received a letter from the General Electric Co. advising me that they had purchased a quantity of porcelain from the Imperial Porcelain Works and that much of the porcelain was defective with respect to the size of the threaded opening and would not properly take the lamp bases. I judged from this that they were intending to manufacture some more of the sockets in the same manner.

451 By Mr. Curtis: The reference to the General Electric Co. is objected to as hearsay, and also the statement as to what the witness judged from the letter as a mere conclusion.

Q. 38. Please state, if you know, whether, after your assignment of the Benjamin patent, the General Electric Co. continued to make and sell sockets substantially like "Defendant's Exhibit, Benjamin Socket," and identical with them in the manner of indenting the shell into the porcelain base to prevent relative rotation?

By Mr. Curtis: Objected to as leading.

A. I believe that they did for a time continue to indent the cap in the same maner as I had done, but made some other changes in the socket.

Q. 39. In what part of the socket were these changes made?

A. Principally in omitting the thread in the porcelain and substituting a threaded metal shell to receive the lamp.

Q. 40. Do you know whether or not the General Electric Co. continued to make these sockets with these changes?

A. They continued to manufacture a similar socket and are still manufacturing substantially the same sockets.

Q. 41. What, then, did you mean by saying that the General Electric Co. made these sockets for "a short time" after your assignment of your patent to them?

A. That they presumably used the good porcelain which they had received in making up additional sockets until such time as they could make the necessary changes in the tools to produce the socket with a threaded metal shell.

452 Q. 42. I hand you a catalogue bearing on its title page the following: "General Electric Company—Supplies—Supply Department—Schenectady, N. Y., April, 1904." Please look at page 346 of this catalogue and state whether or not there is illustrated on that page, the socket which you have testified they continued to make and sell?

A. The illustration given as catalogue No. 50702 has the same appearance as the sockets which I manufactured prior to the assignment to the General Electric Co.

Q. 43. I hand you a catalogue, stated on its title page to be the twenty-first edition of the catalogue of the Manhattan Electrical Supply Co. of New York and Chicago, factories at Jersey City, and marked "Copyrighted 1905 by Manhattan Electrical Supply Co." Please look at page 567 of this catalogue and state whether or not you find there illustrated and priced, the socket — you have just referred?

A. The illustration appears to be the same as that in the General Electric catalogue.

Q. 44. In the price list opposite the illustration of this socket in the Manhattan Electrical Supply Co. catalogue, appears the list No. 50702. Can you explain the connection between the use of this number by the Manhattan Co. and also by the General Electric Co.?

A. The use of the same catalogue number would indicate that the socket offered for sale under same is the same socket which is in common practice in jobbers' catalogues.

Q. 45. I hand you a catalogue marked on its title page, "G. E. Specialties, General Electric Company, Supply Department, Schenectady, N. Y., June, 1906, No. 3463," and ask if you find illustrated therein this socket No. 50702 shown in the other two catalogues to which you have referred?

A. This appears to be the same cut on page 49 as ap-
453 peared on page 346 of the General Electric Co. catalogue.

Counsel for defendant introduces in evidence page 346 of the General Electric Co. catalogue of April, 1904, referred to by the witness

in answer to Q. 42 as "Defendant's Exhibit, General Electric Co., 1904, Catalogue, page 346;" also page 567 of the Manhattan Electrical Supply Co. catalogue of 1905 as "Defendant's Exhibit Manhattan Electrical Supply Co., 1905 Catalogue, page 567;" also page 49 of the General Electric Co. catalogue of June, 1905, as "Defendant's Exhibit, General Electric Co. 1905 catalogue, page 49;" these being the pages referred to by the witness in answers to Q. 43, and Q. 45.

It is stipulated that counsel for defendant may have these three pages just offered as exhibits, reproduced and that the reproductions may be substituted for the originals and used in this cause with the same force and effect as the originals would have, and subject to the same objection.

By Mr. Curtis: Each of these exhibits as well as the catalogues themselves, and all testimony relating thereto, is objected to as immaterial, and irrelevant, and as not proved or shown to be connected as to either time or subject-matter with any of the issues in this cause, and further as not the best evidence of what may have been sold or dealt in by the respective parties whose catalogues these purport to be.

Direct examination closed.

Recess for lunch.

454 Cross-examination.

By Mr. Curtis:

X Q. 46. What was your occupation in 1898?

A. Same as in 1897 or at least a part of the year.

X Q. 47. After the General Electric Co. purchased your patent, did that company supply to the elevated railway company with which you were connected, a number of sockets like "Defendant's Exhibit, Benjamin Socket?"

A. It is my impression that they did.

X Q. 48. You cannot state positively, can you, that this exhibit, Benjamin socket is not one which was purchased from the General Electric Co. and installed here after the General Electric Co. purchased your patent?

A. I can not.

X Q. 49. What gage of brass was used by you in the socket casings which you made in 1897 as you have stated?

A. I could not state positively what gage was used but believe it was about No. 20 B. & S. gage.

X Q. 50. How did you form the indentations in the caps of those sockets which you say you made in 1897?

A. They were formed with a die and pressed in the usual manner.

X Q. 51. Where did you get the die?

A. The dies were made by the David J. Braun Mfg. Co. and the work done in their presses. Those dies were afterwards delivered to the General Electric Co.

X Q. 52. How were the cap and sleeve formed in those sockets? 1897?

A. They were drawn from sheet brass in the brass sockets and from sheet aluminum in aluminum sockets.

X Q. 53. Have you any written record of sales which you made of these sockets in 1897?

A. If there is such a record, or at least a partial record, I have not been able to locate this record. It may be in possession
455 of another party who was financially interested in the business at that time.

X Q. 54. Who is that other party?

A. Rodney B. Swift, now residing in Libertyville, Illinois.

X Q. 55. What effort have you made to obtain that record?

A. Simply a search among my own private records at my home after having been subpœnaed to appear at this hearing.

X Q. 56. To those sales in 1897, your testimony has been given entirely from recollection?

A. Not entirely, I know that for quite a period, I was manufacturing and selling these sockets. That period was prior to the sale of the patent and subsequent to an agreement between myself and Mr. Swift to undertake the manufacture and sale of these sockets, which agreement was in September or October, 1896, as I recall it.

By Mr. Curtis: The answer as to the agreement is objected to as not responsive and as not the best evidence.

X Q. 57. The shells of these sockets were provided with a finish after the parts had been made to the proper form, were they not?

A. Necessarily so, if finished at all, which it is customary to do.

X Q. 58. Were those which you made finished?

A. They were.

X Q. 59. Who did that part of the work?

A. The David J. Braun Mfg. Co.

X Q. 60. From recollection, how long did you say it was after you sold the patent to the General Electric Co., that that company continued to make the socket with the screw thread on the porcelain?

A. I have no positive knowledge as to when they made the change, but the letter to which I referred in my direct examination was in 1898.

456 X Q. 61. Do you know what this litigation is about?

A. Only in a general way.

X Q. 62. If you will, state what you know about it?

A. I understand that an action was brought by the Weber Electric Co. against the Freeman Electric Co., alleging infringement of some Weber patent relating to means to prevent socket body from rotating within the shell or housing.

X Q. 63. Have you seen a copy of the Weber patent you refer to?

A. I have had a copy of that patent in my possession for a number of years.

X Q. 64. For what purpose did you get that copy and for what purpose did you use it?

A. I don't recall the purpose of obtaining the patent but it is our custom to get patents along the line of the class of devices that we manufacture and we have quite a file of such patents and continually adding to that file.

X Q. 65. And you have never had occasion to look it over for any particular purpose?

A. I object to answering that question on the ground that I do not think it is pertinent to the case at hand.

By Mr. See: The question is objected to as not relating to any of the issues involved in this suit and because it inquires into present motives of the witness relating to his private business affairs and because it does not relate to anything inquired about or testified about on the direct examination. The witness is at liberty to answer the question if he chooses to do so, and if he does not choose to do so, need not answer it unless so instructed by the court, on motion.

By Mr. Curtis: I insist that the question is proper and that I have a right to show an interest of the witness which would tend
457 to bias his testimony and the reluctancy of the witness to testify on this point would seem to be conclusive against him. If counsel is not permitted to cross-examine as to this interest, he will ask the notary to certify the record to the court so that a motion can be made to punish the witness for contempt. The objection made by counsel for defendant is, we think, an unfair interference with the cross-examination.

X Q. 66. I again request you to answer the last preceding question.

A. I presume I have referred to that particular patent as I have referred to various other patents from time to time and as any manufacturer would do who wishes to keep posted on the patent situation pertaining to his line or lines of his manufacture.

X Q. 67. Are you, or is your company, interested in the outcome of this suit as affecting the validity or scope of the Weber Patent No. 743,205, which is the patent in suit?

By Mr. See: Same objection.

A. We have no interest whatever.

X Q. 68. In designing your socket represented by "Defendant's Exhibit, Benjamin Socket," how was it you came to form the inward projections or indentations on the cap, rather than on the sleeve of the socket?

A. I do not recall the reasons necessarily for it at that time, but presumably, in my best judgment, the reason was that the threaded connection between the two made it necessary that whatever non-rotating means were employed, it would have to be between the cap and base, otherwise, in removing the lamp, the shell would unscrew.

X Q. 69. Is your company making the line of goods which
458 includes lamp sockets?

A. It is.

X Q. 70. In some of those types of lamp sockets, made by your company, it is the fact, is it not, that the porcelain base or body is engaged by parts of the sleeve which are formed by cutting and bending inward, parts of the wall of the sleeve?

A. That is true of one form of socket which we have had on the

market for several years in which the socket shell contains the supporting brushes, and in which the cap forms only a cover.

X Q. 72. What is the name and cataiogue number of that socket?

A. No. 411 Angle Socket.

X Q. 73. What is the object of the bent-in portions of the sleeve in that angle socket?

A. To locate the base in the single position so that the side opening in the base through which the wire is laid, will coincide with the opening through the bushing.

X Q. 74. Do those projections bent in form the sleeve prevent or limit rotative movement of the porcelain base?

A. It would necessarily limit the movement, otherwise there could be no alignment for the wire grooves with the opening in the side of the shell.

X Q. 75. Has not your company also made a twin socket in which the lamps are arranged and to end in alignment and the keyless type of which has projections formed by cutting and bending inward, parts of the casing sleeve to engage and prevent rotating of the enclosed porcelain base.

By Mr. See: This question and those preceding, and any other, concerning what the witness' company now makes is objected to because they do not relate to any subject testified to on direct examination and because they do not relate to the issues involved
459 and are immaterial and irrelevant. They are apparently nothing more than a fishing expedition.

By Mr. Curtis: Counsel for plaintiff resents the charge of being on a fishing expedition and states that he is merely placing upon the record facts already known to him, showing that this witness is directly interested in the patent in controversy as an infringer thereof, and he is unable to understand how counsel for defendant can object to such a showing which, by the well-settled rules of evidence, goes to the credibility and to the bias of the witness.

A. The same shell which is used for the angle socket previously referred to is used for a twin socket and is for the same purpose. In neither of these devices, however, are there any non-rotating means employed that come within our understanding of the claims of the Weber Patent referred to, and we have never received any information from th Weber Co. that we were in any way infringing upon their patented device in this or any other particular. Furthermore, the particular construction employed is only one of several means which we can and do use, for similar purposes, in other forms of angle sockets, and if we felt or had felt that we were infringing another's patents, by using the construction that we have been using, we would have abandoned the use of same for some other means.

By Mr. Curtis: The whole of the answer is objected to as not responsive and as a mere apology and argument for an obvious case of infringement as appears from the witness' own testimony, and the reading of the claims of the patent in suit.

By Mr. See: If Mr. Benjamin's company does not consider
460 that they are violating any rights of the Weber Company, and if the Weber Company does not think so, with sufficient confidence to so inform the Benjamin Co., as the witness states it has not, the last answer apparently responds fully to counsel's stated desire to ascertain whether or not the witness is interested in the event of this suit.

X Q. 76. What is the catalogue number of the twin socket made by your company which I described in X Q. 75?

A. Catalogue No. 412.

X Q. 77. And was it in connection with this angle socket No. 411 and this twin socket No. 412, that you particularly examined the Weber Patent No. 743,206?

A. I believe I have examined that patent in relation to those sockets as well as other patents relating to sockets.

X Q. 78. In that angle socket and also in that twin socket to which you have referred, do the sleeve and cap automatically interlock with a snap action when the sleeve is pushed into the cap?

A. I have no objection to answering that question but fail to see why I should be called upon to go into details of the construction of devices manufactured by the Benjamin Company in the matter that has no relation thereto. The devices are on the market and if the Weber Company wishes to know their construction, they have all the opportunity obtainable to examine the devices.

By Mr. Curtis: The attention of the Court is directed to the last answer as well as to the answer of X Q. 75 and X Q. 65 as showing the bias and interested attitude of the witness and it is requested that this be carefully taken into account in scrutinizing his testimony.

461 X Q. 79. This is not a question which the Webers wish to know but is a fact which I wish to have the court know. Will you not, therefore, please state whether in the angle socket and also in the twin socket to which you have referred, the sleeve and cap automatically interlock with a snap action when the sleeve is pushed into the cap?

A. The sockets in question being angle sockets in which the wires enter at one side of the base through an opening in one of the sleeves, requires only one position of the cap or cover and that cap or cover necessarily requires a notch to allow the cap or cover to pass over the hub or projection required for the attachment of the bushing for the entrance of wiring. The cap is provided with a bead extending from one side of the notch around to the other side and this bead passes over spring clips formed in the casing by cutting away on three sides of the metal strip or catch which produces a resilient tongue which snaps into the space within the bead when the cap is placed in position. The action of placing the cap on the shell requires no distortion of the shell proper.

By Mr. Curtis: The answer of the witness is objected to as not responsive.

X Q. 80. Do you refuse to state whether or not in the angle socket and also in the twin socket to which you have referred the sleeve and cap automatically interlock with a snap action when the sleeve is pushed into the cap, or, if you prefer, when the cap is pushed down over the sleeve?

By Mr. See: The objection to X Q. 75 is repeated here to this question and to all questions following X Q. 75.

A. In the case of the twin socket, there is no cap in the sense of a closing element but another sleeve, and the action between
462 this sleeve and the supporting sleeve, is the same as that which I have previously described as between the sleeve and cap of the angle socket. When the cap or outside sleeve, as the case may be, is pushed over a supporting sleeve, the spring tongues in the supporting sleeve yields inwardly and snap outward when the lower edge of the bead has passed over the projections of the spring tongue.

By Mr. Curtis: The attention of the court is directed to the evasion in the last answer as to the cap which is precisely the expression which the witness had himself previously used. Now, obviously, for the purpose of confusing the court, he is attempting to give it some other name.

X Q. 81. Is the interlocking of those spring tongues with the bead to which you have referred, automatic or do these spring tongues have to be particularly operated by hand?

By Mr. See: The objection to X Q. 75 is made to this question.

By Mr. Curtis: In view of the repeated objection by counsel for defendant, attention is called to that part of claim 1 of the patent in suit, reading as follows: "Said members having interengaging parts adapted to automatically interlock with a snap action when telescopically applied to each other."

By Mr. See: The objection to X Q. 75 is made to this statement.

A. They expand into the bead automatically when the cap or cover is applied. This cap or cover is very dissimilar to the cap of the ordinary socket shell as the cap is usually considered
463 the supporting element of the device, whereas with the angle and twn sockets, there is no telescopic action between the sleeve and the supporting member as they are, in reality, the same piece.

By Mr. Curtis: All the answer after the first sentence is objected to as not responsive and as volunteered argument.

X Q. 82. Do you see anything improper or incorrect as describing the inter-engaging of the sleeve and the member which goes on over the sleeve or within which the sleeve telescopes in your angle socket

and twin socket, in stating that they have inter-engaging parts adapted to automatically interlock with a snap action when telescopically applied to each other?

By Mr. See: The objection to X Q. 75 is made to this question. In accordance with the equity rules, notice is given that at final hearing of this cause, the court will be asked to tax the *posts* of this deposition against the plaintiff.

By Mr. Curtis: In order that there may be no excuse for further interference with the cross-examination of the witness, I will now stipulate that the foregoing objection and notice may stand without repetition with respect to subsequent cross-examination of the witness. It is embarrassing to counsel, as well as distracting to the witness, to have his answer so far removed from the question.

A. It appears to me that an answer on my part to this question in the phraseology desired by Mr. Curtis would be equivalent to the statement on my part as to the scope of one of the claims of the patent referred to, and furthermore that the line of
464 questioning and the answers is taking the nature of expert testimony which I do not understand I am required to act and testify in such capacity. I, therefore, prefer not to answer the question in the manner evidently desired without being so instructed by the court.

X Q. 83. Do you understand that you are under oath to tell the truth, the whole truth and nothing but the truth?

A. I do.

X Q. 84. Well, as I understand it, you have just refused to tell the truth, because it might affect your interest in the suit; is that the fact?

A. I do not understand that I have refused to tell the truth, believing that I am acting wholly within my rights as a witness.

X Q. 85. Well, is it your final decision not to answer X Q. 82?

A. I consider that I have answered it.

X Q. 86. Will you please show me anywhere where you have stated whether or not that language is correct or incorrect to describe the operation of your device?

A. The question as to whether the phraseology as given in your question applies to the sockets referred to might depend to some extent on the definition of the terms used. There is a question in my mind whether the term "telescopically applied to each other" would apply to the two elements neither of which are entirely cylindrical, and I do not consider that I could define those words in the terms and do not consider that it is evading the truth or failing to tell the truth by declining to tell the meaning of those phrases.

X Q. 87. Does your last answer state all the objections you can think of to the use of the language set forth in X Q. 82 to describe the operation of the twin socket and angle socket to which you have referred?

A. There might be other objections, but I do not recall
465 any off-hand.

X Q. 88. Will you please state the circumstances con-

nected with or leading up to your meeting with Mr. Freeman which resulted in your being called as a witness in this case?

By Mr. See: The question is objected to as improper cross-examination. Perhaps there was some meeting between Mr. Benjamin and Mr. Freeman, prior to this testimony, but if so, the record so far fails to show it.

A. I don't recall having had any conversation with Mr. Freeman on this subject.

Redirect examination.

By Mr. See:

R. D. Q. 89. Are you a resident of Chicago, and is the Benjamin Electric Mfg. Co. of which you are president located at Chicago?

A. I am, and it is.

R. D. Q. 90. In answer to Q. 18, you stated that you and Mr. Scott did some of the work of assembling sockets like "Defendant's Exhibit, Benjamin Socket" at your home and some in the basement of the Terminal Building of the Metropolitan West Side Elevated Railroad Co. on Market Street. Was your home and this Terminal Building in Chicago?

A. They were.

R. D. Q. 91. The Elevated Railroad Companies at some of the stations of which you stated those sockets were installed and used was in Chicago?

A. They were all in Chicago.

R. D. Q. 92. Do you know whether or not, from observation, it is the custom of the General Electric Co. to mark sockets manufactured by it with any identifying mark?

456 By Mr. Curtis: Objected to as calling for a mere supposition on the part of the witness and inquiring about a matter as to which he is incompetent to testify without actual knowledge.

A. It is the usual custom of any manufacturer of prominence to mark their manufactured products in such a way as to indicate by whom it is manufactured. The early devices which we manufactured were not so marked.

R. D. Q. 93. In answer to Q. 37, you stated that you received a certain letter from the General Electric Co. If you can produce that letter, please do so.

A. I can and I do.

By Mr. See: The letter just produced by the witness is introduced in evidence as "Defendant's Exhibit, General Electric Co. Letter to Benjamin" and the notary is requested to so mark it.

R. D. Q. 94. In answer to X Q. 56, you referred to a certain agreement between yourself and Mr. Swift. If that agreement was in writing, can you produce it?

A. The agreement was in writing and could be produced if necessary.

R. D. Q. 94. Will you please do so?

A. I do so.

R. D. Q. 95. Is the signature of R. B. Benjamin at the end of this agreement you have just produced, your signature, and did you write it there on the date stated in the clause immediately preceding your signature, and did you intend thereby to enter into some arrangement with R. B. Swift concerning the manufacture of sockets corresponding to your then pending patent application which issued as Patent No. 575,322.

467 By Mr. Curtis: So far as the question calls for the intention of the witness, it is objected to. The document itself is the best evidence.

A. The signature is mine and was made as I believe on the date given in the document, the purpose of the agreement being to manufacture sockets substantially like those illustrated in the patent referred to in the question.

By Mr. Curtis: Same objection.

R. D. Q. 96. Were the sockets which you made and sold in 1897 made subject to this agreement?

A. To the best of my knowledge, they were.

By Mr. Curtis: Same objection.

By Mr. See: The three-paged typewritten document produced by the witness is offered in evidence as "Defendant's Exhibit, Benjamin-Swift Agreement," and the notary is instructed to so mark it.

It is stipulated that a copy of this document may be produced in evidence instead of the original and used in this cause with the same force and effect as the original would have, subject to the same objections, and subject to production for examination by the court if required.

R. D. Q. 97. Please state whether you have appeared to testify in this cause voluntarily?

A. I did not appear voluntarily, and did not know that I was required to appear until subpœnaed.

It is stipulated that the catalogue referred to in Q. 42, page 346, of which has been introduced into evidence as "Defendant's
468 Exhibit, General Electric Co.'s 1904 catalogue, page 346," is a catalogue issued and circulated by the General Electric Co. in or about April, 1904; that the catalogue referred to in Q. 43, page 567 of which is in evidence as "Defendant's Exhibit, Manhattan Electrical Supply Co. 1905 catalogue, page 567" is a catalogue issued and circulated by the Manhatan Electrical Supply Co. in 1905; and that the catalogue referred to in Q. 45, page 49 of which is in evidence as "Defendant's Exhibit, General Electric

Co. 1906 Catalogue, page 49," is a catalogue issued and circulated by the General Electric Co. in or about June, 1906.

Deposition closed.

R. B. BENJAMIN.

Adjourned to March 12, 1915, at 10 A. M.

469 March 12, 1915, 10 A. M.

Met pursuant to adjournment, with counsel present as before.

WILLIAM H. SCOTT, being first duly sworn, testifies as follows:

Direct examination.

By Mr. See:

Question 1. Please state your name, residence and occupation.

Answer. William H. Scott; 2854 Shakespeare Ave.; electrician.

Q. 2. Please state with what company you are employed and in what capacity.

A. With the Western Electric Company; foreman in the Inspection Department.

Q. 3. Do you reside and work in Chicago.

A. I reside in Chicago, but work in Hawthorne, Hawthorne adjoining the city limits of Chicago.

Q. 4. Do you know Reuben B. Benjamin, president of the Benjamin Mfg. Co.?

A. Yes.

Q. 5. Were you and R. B. Benjamin ever associated together in the employ of the same company, and if so, what company, and where?

A. Yes, with the Metropolitan West Side Elevated Railway Co., Chicago.

Q. 6. In what capacity was he, and were you, employed?

A. He was the electrical foreman and I was working for him as an electrician.

Q. 7. Please state when it was that you and he were employed together as you have stated?

A. I think in 1896 and 1897—probably 1898 and 1899.

Q. 8. During your employment together at that time, do
470 you know whether or not Benjamin made any electric lamp sockets?

A. Yes.

Q. 9. Please state how you happen to know this fact?

A. I helped Benjamin to assemble those sockets.

Q. 10. Please describe those sockets in a general way.

A. Why they were a porcelain socket with two parts to the shell.

By Mr. Curtis: Counsel for plaintiff wishes it to be noted that the witness in giving his last answer had before him the "Defendant's Exhibit, Benjamin Socket."

Q. 11. Please state whether or not the sockets which you helped Benjamin assemble when you were both employed by the Metropolitan Elevated Railroad Co. were like "Defendant's Exhibit, Benjamin Socket" which is before you.

A. They were identical.

Q. 12. Please state, if you know, why the shell of those sockets which you assembled was indented into the porcelain base?

A. To keep the porcelain part from turning.

Q. 13. Where did you and Mr. Benjamin work in assembling these sockets?

A. I think the number was 258 to 260, South Franklin Street, in the Terminal Building, of the Metropolitan West Side Elevated Railroad Co.

Q. 14. Please state, if you can, approximately how many sockets were assembled by you and Mr. Benjamin at that time?

A. Several thousands.

Q. 15. Were any of these sockets which you helped to assemble ever sold?

A. Yes.

Q. 16. To whom were they sold?

471 A. To the Union Loop Company.

Q. 17. Where and how were those sockets used, if you know?

A. They were used on the Union Loop and at the Franklin Street station of the Metropolitan West Side Elevated Railroad Co. as a weather-proof socket.

Q. 18. Is the Franklin St. station to which you refer, on the connection between the old Metropolitan terminal and the Union Loop?

A. Yes.

Q. 19. Where were these sockets used on the Loop and on this connection, along the line or at the stations?

A. At the stations.

Q. 20. The Union Loop and Metropolitan connection, and the stations thereon to which you referred, are in Chicago?

A. Yes.

Q. 21. Please state, if you can, about when these sockets like "Defendant's Exhibit, Benjamin Socket" were sold to the Union Loop and installed in the Loop and Metropolitan connection stations?

A. In 1897.

Q. 22. Do you know whether or not the Metropolitan elevated trains were running around the Loop when these sockets were installed at these stations?

A. They may have been installing the sockets at the time; that is, the trains may have been running around the Loop before the lighting had been completed.

Q. 23. State whether or not those sockets were installed at about the time Metropolitan trains started using the Loop?

By Mr. Curtis: Objected to as leading.

A. They were.

Q. 24. Please state what you mean when you refer, as you
472 have, to "stations" of the Union Loop and Metropolitan connection?

A. I mean the stations that were being built in 1897 before the Metropolitan trains run around the Loop; that is, those sockets were being installed on the Union Loop stations before the Metropolitan trains run around the Union Loop.

Q. 25. After the trains were using the Union Loop, were these stations used by the public in getting to and from trains?

A. Yes.

Q. 26. Did you ever see any of these sockets in use in the fixtures at these stations after the stations were being publicly used?

A. Yes.

Direct examination closed.

Cross-examination.

By Mr. Curtis.

X Q. 27. What is the nature of the business of the Western Electric Co.?

A. I think most in the telephone business at the present time.

X Q. 28. Is it merely a manufacturing Co.?

A. I believe so. I believe there is a supply house in connection with it.

X Q. 29. Do you know anything about the supplies which they carry?

A. I do not.

X Q. 30. When would you say that the work on the Union Loop was completed?

A. It was completed as far as to run trains around in October, 1897. They may have been doing some work at different places to finish up odd jobs that had not been finished.

X Q. 31. You mean, as I understand it, that they may have been doing work for sometime after October, 1897, in finishing up those jobs?

A. Yes, there is always more or less work to do in finishing up, after opening up a station or branch.

473 X Q. 32. Have you any written record which enables you to fix the date when these sockets were installed by you and Mr. Benjamin on the Union Loop?

A. I don't know that I have.

Deposition closed.

W. H. SCOTT.

L. S. DAVIES, being first duly sworn, testifies as follows:

Direct examination.

By Mr. See:

Question 1. Please state your name, residence and occupation.
Answer. L. S. Davies; 7247 Maryland Ave., Chicago; electrician.
Q. 2. By whom are you employed?
A. By the Chicago Elevated Railways.
Q. 3. In your work, for the elevated railways of Chicago, have you become familiar with the sockets in use in the lighting fixtures at the stations on the Loop and at the Franklin St. station on the Metropolitan connection with the Loop?
A. Yes.
Q. 4. I hand you a lamp socket marked "Defendant's Exhibit, Benjamin Socket," and ask if there are any sockets like this in use at the stations of the elevated system in Chicago?
A. Yes.
Q. 5. Please state whether or not you ever gave me a socket like this?
A. Yes.
Q. 6. Where did you obtain the socket which you gave me?
A. At Franklin and Van Buren.
474 Q. 7. Is that the Franklin St. station on the Metropolitan connection with the Loop?
A. Yes.
Q. 8. Where, at the Franklin St. station, was the fixture from which you took that socket?
A. In the electrician's shop.
Q. 9. Is that the shop where you work?
A. Yes.
Q. 10. Please describe where this shop is and how it was built.
A. The shop is part of the old waiting room of the station. It has been partitioned off to make a shop.
Q. 11. To the best of your knowledge and belief, is the exhibit "Defendant's Exhibit, Benjamin Socket," the same socket which you gave me?
A. Yes.
Q. 12. When you took this "Defendant's Exhibit, Benjamin Socket" from the fixture at the Franklin St. station, were there other sockets like it in that fixture?
A. Yes.
Q. 13. Are there other sockets like the exhibit in other stations on the Loop?
A. Yes.
Q. 14. Can you produce another socket like the exhibit?
A. Yes.
Q. 15. Please do so and state where you obtained it.
A. There is one from Congress and Wabash. We were renewing some sockets. And here is one from La Salle and Van Buren.

Q. 16. By your last answer, do you mean elevated railroad stations?

A. Yes.

Q. 17. Are these stations at the street intersections in Chicago, named in your answer?

A. Yes.

475 Q. 18. Where were these sockets at those two stations when you removed them?

A. They were on a ceiling fixture.

The two sockets just produced by the witness are introduced in evidence and the notary is requested to mark the socket stated by the witness to have been removed from the station at Congress and Wabash Avenue, as "Defendant's Exhibit, Duplicate Benjamin Socket No. 1," and the socket stated to have been removed from the station at La Salle and Van Buren St. as "Defendant's Exhibit, Duplicate Benjamin Socket No. 2."

Q. 19. Are there any sockets substantially like these which you have produced in use at the stations of the Chicago Elevated Railway which in any way differ from these?

A. There are some with a brass shell on the inside.

Q. 20. Please state just what you mean by a "brass shell inside."

A. Well, the General Electric Co. makes sockets with a brass shell in here for the lamp to screw into.

Q. 21. Can you produce one of those sockets?

A. I haven't got one with me now.

Q. 22. Can you obtain one?

A. Yes, I think I could.

Q. 23. Will you please obtain and produce one of these sockets to which you have referred?

A. I will.

Q. 24. The socket which you have just produced, was obtained where?

A. I got that from the shop.

The socket just produced by the witness is introduced in evidence and the notary is requested to mark it, "Defendant's Exhibit, General Electric Socket."

476 Q. 25. Are there any sockets in use on the elevated roads of Chicago, in a general way, like "Defendant's Exhibit, Benjamin Socket," with the shell indented into the porcelain base, as in that socket, but with a metal threaded shell in the lamp-receiving end of the socket?

By Mr. Curtis: Objected to as leading.

A. Yes.

Q. 26. Can you obtain one of these sockets and produce it here at 2:30 o'clock this afternoon?

A. Yes.
Q. 27. Please do so.

Recess for lunch.

Q. 28. Have you obtained and can you produce, one of the sockets referred to in Q. 25?
A. Yes.
Q. 29. Where did you obtain this socket?
A. At Dearborn and Van Buren Streets.
Q. 30. Did you obtain it from a fixture at the elevated railroad station at those streets?
A. Yes.

The socket produced by the witness is introduced into evidence and the notary is requested to mark it, "Defendant's Exhibit, Benjamin Socket, Metal Lamp Sleeve."

Direct examination closed.

Cross-examination.

By Mr. Curtis:

X Q. 31. How long have you been connected with the elevated railway system in Chicago?
A. I worked for the South Side Elevated Railroad for fourteen years the 17th of this month—since 1901.

X Q. 32. Have sockets like the exhibits "Benjamin Sock-
477 ets" been installed on the elevated railway system in Chicago from time to time within your experience?
A. I never, myself, put in sockets like those.

Cross-examination closed.

Deposition closed.

L. S. DAVIES.

CHARLES H. JONES, being first duly sworn, testifies as follows:

Direct examination.

By Mr. See:

Question 1. Please state your name, residence and occupation.
Answer. My name is Charles H. Jones; am General Foreman of Electrical construction of the Chicago Elevated Railroads.
Q. 2. Do you reside in Chicago?
A. Yes, sir.
Q. 3. Through your work, are you familiar with the lamp sockets in use at the stations of the Loop and the Metropolitan connection of the elevated railroad system of Chicago?
A. Yes, sir.
Q. 4. I hand you three sockets, marked respectively, "Defendant's

Exhibit, Benjamin Socket," "Defendant's Exhibit, Duplicate Benjamin Socket No. 1," and "Defendant's Exhibit, Duplicate Benjamin Socket No. 2" and ask if sockets like these are in use in the lighting fixtures at the stations of the Chicago Elevated Railroad.

A. Yes, sir.

Q. 5. How long have you been familiar with the installation of sockets at the elevated railroad stations?

A. Six years.

478 Q. 6. Were sockets like the three exhibit sockets in use in those lighting fixtures when you first became familiar with what sockets were in use?

A. Yes, sir.

Q. 7. Are sockets like the three exhibit sockets in use at stations along the Loop and at the Franklin Street station on the Metropolitan connection with the Loop, referring to the elevated system of Chicago?

A. Yes, sir.

Q. 8. Please state whether most of the sockets in use at these stations are like the three exhibit sockets, or whether they are of some other type.

A. Inside the station buildings, they are of this type.

Q. 9. Please state whether or not the Union Consolidated Elevated Railroad Co. constructed and originally operated the Loop and the connection of the Metropolitan Elevated Road with the Loop, of the Chicago Elevated Railroad system.

A. They did.

Direct examination closed.

Cross-examination.

By Mr. Curtis:

X Q. 10. Have you ever installed any sockets like these three exhibit sockets?

A. No, sir.

X Q. 11. About how many sockets like these three exhibit sockets would you say there are in use on the elevated railway system in Chicago?

A. About two hundred and fifty.

X Q. 12. Are you familiar with the whole elevated railroad system?

A. Yes.

Cross-examination closed.

Deposition closed.

CHAS. H. JONES.

479 JAMES C. GARDINER, being first duly sworn, testifies as follows:

Direct examination.

By Mr. See:

Question 1. Please state your name, residence and occupation.
Answer. James C. Gardiner, 1937 South Spaulding Avenue, Chief Clerk to the Superintendent of the Metropolitan Elevated Railroad.
Q. 2. You mean the Metropolitan Elevated Road of Chicago, do you?
A. Yes, sir.
Q. 3. How long have you been working in the superintendent's office of the Metropolitan West Side Elevated Railroad Co.?
A. Since March 7th, 1912.
Q. 4. Are you familiar with the records kept in that office?
A. Yes.
Q. 5. Are there any records in the superintendent's office which show when trains of the Metropolitan Elevated Line started to run around the down-town Union Loop?

By Mr. Curtis: Objected to as incompetent, unless the records were made by the witness.

A. Yes.
Q. 6. Please produce the records that will show this fact, if you can.

By Mr. Curtis: Same objection, and it is stipulated and agreed that this objection as to the competency of the testimony shall stand without repetition to all such records and the testimony relating thereto.

480 A. Order Book No. 2 will show these records, producing copies of original bulletins.
Q. 7. Is this book which you have produced a part of Metropolitan Elevated Railroad records which are kept in the custody of your office?
A. Yes, sir.
Q. 8. Do you still maintain a record of orders and bulletins issued such as appear in this book?
A. Yes, sir.
Q. 9. Most of the orders, bulletins and other documents appearing in this book are apparently letter press copies, in the bound book. Do you know whether the originals are in existence?
A. I don't believe they are.
Q. 10. Have you any such originals of the copies in this book at your office?
A. No, sir.
Q. 11. If they were in existence, where in the regular course of business would they be kept?
A. According to the system at that time, they probably would

be posted on bulletin boards at different points on the road, pertaining to the original bulletin.

Q. 12. Will you please point out the page in this book on which appears any order indicating when Metropolitan trains first started running around the Union Loop?

By Mr. Curtis: Counsel for plaintiff further objects to the book in question and to all testimony by this witness with reference thereto, on the ground that it is not the best evidence; that no evidence has been offered to verify in any way the entries that it is not an account book used in the regular course of business, and that obviously the matters referred to in this book are matters of which the witness has no personal knowledge.

481 A. On page 193 and 194 is a copy Order No. 279 issued under date of October 8, 1897, over the signatures of A. S. Jones, Supt. of Transportation and approved by W. E. Baker, Supt. for Receiver, showing the first trains from the four different branches of the Metropolitan West Side Elevated Railroad which go around the Loop.

Q. 13. Please read the title appearing on the back of this book.

A. "Trans. Dept.—Orders 2—From Oct. 21, 1896 to May 31, 1898."

Q. 14. Are the branches referred to in Order No. 279, page 193 of this book branches of the Metropolitan West Side Elevated Railroad Co.?

A. They are.

Q. 15. Please read into the record the matter appearing on page 200 of this book.

A. The matter reads as follows:

Chicago, Oct. 9th, 1897.

Bulletin Notice.

To Trainmen:

The Rules and Regulations of the Union Loop have been printed, and can be obtained at the Despatcher's.

A. S. JONES,
Supt. Transportation."

Pages 193 and 194 of this record, referred to by the witness in his answer to Q. 12 are offered in evidence and the Notary is requested to mark them "Defendant's Exhibit, Metropolitan Elevated Record." It is stipulated that counsel may have these two pages copied and that the copies may be substituted for the pages of the book itself and used in this cause with the same force and effect as those pages in the book would have and subject to the same objection.

482 Q. 16. Do you maintain in the Supt's office of the Metropolitan West Side Elevated Railroad Co., a card history of events relating to the road?

A. Yes, sir.

Q. 17. From what records is that card history made up?

A. From original records pertaining to the subjects under which head the index may be marked, for future reference.

Q. 18. Are the records of which this Book No. 2, of the Transportation Department is a part, under your charge?

A. They are.

Q. 19. Is this book and those preceding and following it in time, part of the records from which your card history was made up?

A. They are.

Q. 20. Does that card history state when the Union Loop was opened?

By Mr. Curtis: The objections already interposed with respect to the order book are made to said card history and all testimony relating thereto.

A. It does.

Q. 21. What dates does that card history show that the Union Loop of the Chicago Elevated system was opened?

A. October 11th, 1897.

Q. 22. In answer to Q. 11, you stated that the original of the orders appearing in this Book 2 would probably "be posted on Bulletin Boards at different points on the road, pertaining to the original bulletin." Will you please explain a little more fully what you mean by that answer?

A. Bulletins pertaining to the movements of trains would be posted on bulletin boards that all concerned in these move-
483 ments would be in a position to see by the reading of these bulletins, that they would be posted to be able to perform their various duties in co-operation with the movement.

Q. 23. Is the permanent record of these orders that are posted at various stations made from one of the duplicate copies of a given order?

A. Yes.

Q. 24. What is done with the order from which the copy in this permanent record is made?

A. We file the orders signed by the superintendent in a record at the office after it has been copied and other copies are sent to the various terminals to be put on file.

Q. 25. Has it always been the custom to file the order from which the copy in these books was made?

A. Well, that can be answered in two ways. The original used to be posted at the terminal or office where it was considered that that point would be the one most affected by such order. But now the original is filed in the superintendent's office in a special bulletin file which is so divided that the bulletin pertaining to that subject could be readily located.

Q. 25. Are these originals which you now maintain kept in your office and in your custody?

A. They are.

Q. 27. Have you any such originals for the period covered by this Order Book No. 2?

A. I have not.

Q. 28. Do you know of any record of the orders and bulletins appearing in this book other than the book itself?

A. No sir.

Direct examination closed.

Cross-examination.

By Mr. Curtis:

X Q. 29. In the order book, to which you have referred, there appear, do there not, at more or less irregular intervals, letter
484 press copies of typewritten signed papers, letter press copies of typewritten papers with the signature typewritten, carbon copies of typewritten papers pasted in and ribbon copies of typewritten papers, and letter press copies of papers and manuscripts?

A. Yes, sir.

X Q. 30. And you do not claim to have any personal knowledge as to the making of these copies or the originals of which they purport to be copies?

A. No, sir.

Counsel for plaintiff renews the objections heretofore made to the Order Book and to the card history referred to by the witness, and further objects to all testimony of the witness as to facts purporting to be shown by said order book and card history as hearsay.

X Q. 31. Have you made any effort to find the originals of which the entries in the order book purport to be copies other than to look through your office?

A. Yes, sir.

X Q. 32. What else did you do?

A. I asked the trainmaster who used to have a record of all of them and he said that as far as he knew the originals had been destroyed.

Cross-examination closed.

Deposition closed.

JAMES C. GARDINER.

485 *Notary's Certificate.*

STATE OF ILLINOIS,
County of Cook, ss:

I, I. V. Curran, a Notary Public, within and for said county and state, hereby certify that the witnesses Reuben B. Benjamin, William H. Scott, L. S. Davies, Charles H. Jones, and James C. Gardiner, were by me sworn to testify the truth, the whole truth and nothing but the truth; that their depositions were taken before me and reduced to writing by E. Linderoth, in the presence of the respective witnesses and of counsel, and were duly signed by the witnesses; that said depositions were taken pursuant to notice and agreement,

beginning on March 11, 1915, and ending on March 12, 1915, with adjournments as noted; that the exhibits recited were offered in evidence, and marked as specifically noted in the foregoing depositions; that I am not of counsel nor a relative of either party, or otherwise interested in the event of this suit.

In testimony whereof, I have hereunto set my hand and official seal this 12th day of March, 1915.

I. V. CURRAN,
Notary Public.

486 In the United States District Court for the District of New Jersey.

In Equity.

WEBER ELECTRIC COMPANY, Complainant,

vs.

E. H. FREEMAN ELECTRIC COMPANY, Defendant.

On Patent No. 743,206.

Met pursuant to the order of the Court herein, and also per agreement of Counsel, March 23d, 1915, at 11 a. m., at the offices of the E. H. Freeman Electric Company, Tribune Building, New York City, before Walter P. Long, Notary Public in and for the County of New York, acting as Special Commissioner, by consent.

Further proofs on behalf of Defendant, under order of the Court herein.

Appearances: Frank C. Curtis, Esq., for Complainant; David P. Wolhaupter, Esq., for Defendant.

RICHARD F. PURCELL, a witness called on behalf of Defendant therein, being first duly sworn, deposes and says in answer to interrogatories by Mr. Wolhaupter:

Direct examination.

By Mr. Wolhaupter:

Question 1. Please state your name, age, residence and occupation?

487 Answer. My name is Richard Francis Purcell; 48 years; 108 Hockhurst Avenue.

Q. 2. New York City?

A. No, sir; Weehawken, New Jersey.

Q. 3. Occupation?

A. Superintendent of the Tucker Electrical Construction Company.

Q. 4. What business is the Tucker Electrical Construction Company engaged in?

A. Electrical construction.

Q. 5. Electrical construction work?

A. Yes, sir, electrical construction work.

Q. 6. How long have you been connected with that company as superintendent?

A. Since 1900.

Q. 7. Were you employed by that company previous to that date?

A. Yes, sir.

Q. 8. In what capacity?

A. As—well, to go back and be accurate about it, I started as an apprentice—not as an apprentice, as a helper, and from a helper to a journeyman, and from that to foreman, and from a foreman to a superintendent. So I went up the ladder, as the fellow says.

Q. 9. Did this varied experience of yours include work in actual installing of fixtures of various kinds, including lamp sockets?

A. Yes, sir.

Q. 10. As a wireman?

A. Yes, sir; and as a foreman, because when a foreman I could work with my tools. But since I became a superintendent I cannot work with tools, because it is according to the rules of our labor organization that a superintendent cannot use tools.

Q. 11. Did your experience as a workman prior to becoming superintendent of the Tucker Electrical Construction Company make you familiar with various types of electrical lamp sockets?

A. Yes, sir.

488 Q. 12. In your capacity as superintendent of this company did the various kinds of electrical fixtures and supplies handled by the company, come under your immediate notice?

A. For the jobs that I control.

Q. 13. I call your attention to an electrical lamp socket which has been filed as an exhibit in this case, and would ask you to say whether or not you are familiar with that type of lamp socket? (Witness shown Defendant's Exhibit, Benjamin Socket.)

A. Yes, sir.

Q. 14. How long have you known of that type of lamp socket?

A. Since before 1900.

Q. 15. How do you fix that date in that connection?

A. Because I handled those sockets as a foreman, and I did not become superintendent until on or about August of 1900, when I gave up the use of tools.

Q. 16. Are you able to give any places, the names of any places where you handled sockets of this type? (Showing witness Benjamin socket, metal lamp sleeve.) That is, prior to 1900?

A. Well, I cannot recollect the jobs that I used them on, as it is so far back.

Q. 17. Do I understand that you are fixing this time from the dates you have given me as to when you became superintendent of the Tucker Electrical Construction Company?

A. Yes, sir.

Q. 18. To what extent, if any, did you have a knowledge of this type of electric lamp socket in or subsequent to 1900?

A. Simply because I was working as a mechanic.

Last question read.

A. The only answer I can give to that is because I was a mechanic and remember very distinctly of handling those sockets before that date.

489 Q. 19. Stating the matter in another way: Do you recall any installation of this type of socket that you had any knowledge of in the year 1900?

A. No, sir, I cannot.

Q. 20. Can you name any installation of which you have knowledge that has been made of these sockets, according to the exhibit shown you?

A. Well, now, I cannot give another man's testimony—unless I say the elevated railroad.

Q. 21. I am simply talking about what you know?

A. I know they were used on the elevated railroad, but I did not have charge of it myself, that work.

Q. 22. What elevated railroad?

A. The Manhattan Elevated Railroad of New York.

Q. 23. When was this particular installation made?

A. In 1900 and 1901.

Q. 24. Which date, both?

A. In 1901.

Q. 25. In the year 1901?

A. Yes, sir.

Q. 26. How are you able to state that installations were made in the year 1901 of the Benjamin socket of the type shown in the Exhibit referred to?

A. Because I was in the office and recall this material going to and from the office; going out of the storeroom and coming into the storeroom for the Manhattan Elevated Road.

Q. 27. You are holding in your hand an aluminum specimen of this type of socket. State what, if anything, you know about this particular specimen of the Benjamin socket?

A. That socket is the socket, the style that was used. It was the aluminum shell that we used throughout the Manhattan Elevated.

Q. 28. Do you know from where this particular specimen was obtained?

A. I only know from our office, that they were purchased from the General Electrical Company.

490 Q. 29. You have brought this particular specimen here. Where did you obtain it?

A. This particular socket was taken from Twenty-eighth Street and Fourth Avenue, the subway station.

Q. 30. When and by whom?

A. It was taken off Friday, the 19th, by one of our men by the name of Everett Whittaker.

Q. 31. Do you know how long that particular socket was in use at the station to which you refer?

A. No, sir.

Q. 32. Have the electrical lamp sockets of this type been used by the Tucker Electric Construction Company for other installations besides the elevated job you referred to?

A. Several jobs, but I cannot recall the jobs.

Q. 33. Are you able to recall how recently this type of socket has been used by your company in installations?

A. No, sir.

Q. 34. Can you give any idea of how extensive has been the use of this type of socket by your company?

A. At one time there was hardly a job that we had of outside work where a socket was attached to a fixture suspended from a building or a structure but what we used this type of socket, where the circuit was controlled by a switch.

Q. 35. Did all the sockets of this type which were used by the Tucker Electric Construction Company have, so far as you know, the indentations in the cap portion of the shell, as appears in the samples before you?

A. Yes, sir.

Q. 36. State if you know the purpose of those indentations?

A. It is to keep the interiors from rotating when the lamp is turned in or out.

Q. 37. Did your company have anything to do with the electrical installation of the McAdoo Tubes?

A. Yes, sir.

491 Q. 38. Did those installations include electrical lamp sockets?

A. Yes, sir.

Q. 39. Did they include electrical lamp sockets like the Benjamin sockets, similar to the specimens before you?

Mr. Curtis: That is objected to as leading.

A. To the best of my knowledge, yes, sir.

Q. 40. Have you any personal knowledge as to that?

A. No, sir.

Q. 41. Are you able to give the year when those installations were made in the McAdoo Tubes?

A. It is between four and five years ago, I should judge.

Q. 42. Is the Tucker Electrical Construction Company handling at this time Benjamin sockets of the construction of the Exhibit before you?

A. I don't think we have one of those sockets in our storeroom at the present time, and our work is so little just at the present time that we are not handling many sockets of any description.

Q. 43. In your capacity as Superintendent of the Tucker Electrical Construction Company had you access to the records of the Company?

A. To some; not all.

Q. 44. In reference to the dates of the transactions to which you referred, have you made any examination of those records to refresh your recollection?

A. I have, slightly.

Q. 45. Please explain?

A. Simply from the time book; that is all—kept by Mr. McGivney, who is a Superintendent, as well as myself.

Q. 46. Those books simply show the time of the workmen on particular jobs?

A. Yes, sir.

492 Q. 47. Did you examine any other records of the Company in this connection?

A. No, sir.

Q. 48. Why not?

A. In the first place I didn't have time; and in the second place I didn't know really what there was called for.

Q. 49. Do you know whether the Tucker Electrical Construction Company has in its possession bills, documents, or other vouchers applying to the installations of these Benjamin sockets?

A. I could not say, other than what I heard Mr. Cornell say to Mr. McDowell, and that was that all our bills were destroyed—that the bills were all destroyed. As far as the estimates is concerned I don't know whether they are in the office at the present time or not, or the plans either, as I have not looked for them.

Q. 50. What do you mean by plans?

A. We have regular working plans.

Q. 51. Just explain so we will know what it means?

A. A plan is a drawing of a construction of any description whatever it may pertain to, whereby it gives the layout in details as to measurements and material to be used.

Q. 52. Do you have access to these plans belonging to the files of the Tucker Electrical Construction Company?

A. Yes, sir.

Q. 53. Are you familiar with these plans?

A. I see those plans during the time the work was under construction of the Manhattan Elevated. Since the job is finished the plans have been filed away and I have not seen them.

Q. 54. Do I understand in your last answer that you are referring to the plans for the job on the Manhattan Elevated Railway?

A. Yes, sir.

Q. 55. Relating to the installation of these Benjamin sockets?

A. Yes, sir.

493 Q. 56. You would be able to identify these particular plans if they were shown to you?

A. Yes, sir.

Mr. Wolhaupter: Counsel for Defendant now offers in evidence the aluminum G. E. socket referred to in the witness' deposition, and requests the Notary to mark the same "Defendant's Exhibit: Aluminum Sample. Benjamin socket."

Q. 57. I now show you a set of plans, and ask you to state whether or not you are able to identify them, and if so, what are these plans, and to what transaction do they relate?

A. Yes, I identify those plans. They are the Electrical layout of the Manhattan Elevated Railroad, and were used by our men as a di-

rection as to how they should do their work, both in quantities and in size of type, and styles and makes of different materials and also location.

Q. 58. Say what you mean by "our men"?

A. Our foreman and workmen of the Tucker Electrical Construction Company.

Q. 59. You speak of these plans indicating the materials to be used on this particular contract, and I notice on sheet No. 72 reference to a Benjamin socket?

A. Yes, sir.

Q. 60. At that time did you know of more than one type of Benjamin socket?

A. No, sir.

Q. 61. At the time this contract was being performed by the Tucker Electrical Construction Company for the Manhattan Railway Company did these particular blue print plans come under your personal attention in any way and for any purpose?

A. Only in the drafting room they came under my atten-
494 tion. I didn't have charge of that work. But from time to time our men, that is, our workmen, used to come to the drafting room in the evening to get information on those plans as to what was right or what was wrong, and as to difficulties that they came across, or came in contact with during the day on the job; and they generally used to come in at night time to have those difficulties straightened out.

Q. 62. Do you have any clear recollection of having seen these very blue prints, these plans, prior to to-day?

A. At the time of the work. Never since.

Q. 63. Certain of these plans contain thereon red markings and writing in red. Have you any personal knowledge as to how this data was placed on there and by whom?

A. Well, I didn't see it going on. I have had so many plans and have been working under Mr. Cornell for so many years that I could tell a plan that he had been working on in Germany, I guess or somewheres else, anywheres else, on account of being so familiar with his work. But I did not directly see him mark those plans.

Q. 64. Are you sufficiently familiar with the handwriting appearing in the red indicia on these plans—that means the red data—to say in whose handwriting it appears on these prints?

A. To the best of my belief I would say, yes, it is Mr. N. A. Cornell's.

Q. 65. These several blue print plans bear different dates: the earliest of these appears to be April 18, 1899, and sheet No. 72 showing a date of May 17, 1899. Please state what personal knowledge you have, if any, as to when these plans were first in the offices of the Tucker Electrical Construction Company?

A. To the best of my belief the first time I saw those plans were in the latter part of 1900.

Q. 66. Now please state briefly, Mr. Purcell, exactly what
495 you personally had to do with performing this contract for the Manhattan Railway Company?

A. None whatever myself personally.

Q. 67. Had you anything to do with the direction of the help in carrying out this contract?

A. No, sir.

Q. 68. Had you anything to do with obtaining the supplies and the material used in carrying out the contract?

A. No, sir.

Q. 69. What were your duties with the Tucker Electrical Construction Company at that precise period when this contract was being carried out?

A. Superintendent.

Q. 70. Just state what your duties were as superintendent?

A. Well, we had two superintendents. I had nothing at all to do with this work. My work was ordinarily and largely building, and owing to the fact that I was so busy at the time this was given to my partner, Mr. McGivney, the superintendent on this job. The duty of the superintendent is from time to time to get data for his foreman on the job, see that his foreman is supplied with materials and see that his foreman has the proper amount of men to carry through his job.

Q. 71. Was it a part of your duties at that time to know what materials were needed and see that they were on hand for the particular jobs then under contract?

Mr. Curtis: Objected to as leading.

A. Under my supervision.

Q. 72. You referred to it being one of your duties to see that the foreman was supplied with the necessary materials for jobs. What did you mean by that?

A. Why, so the men in the first place would not run out
496 of materials during the day; that they would have enough to continue for the eight or nine hours of the day, whichever they worked, and also the material that was specified in the specification, so that when the job was completed there would not be any changes of different materials.

Q. 73. Did you have anything to do with handling these Benjamin sockets which were to go into the installations for the Manhattan Railway Company?

A. No, sir, not for that job.

Mr. Wolhaupter: Counsel for Defendant now offers in evidence the blue print plans produced by Mr. N. A. Cornell and identified by the present witness, being five sheets in all, marked Defendant's Exhibit: "Manhattan Railway Company plans."

Cross-examination.

By Mr. Curtis:

XQ. 74. You have stated that the men used to come to you as superintendent for information some times at night. Do you re-

call that they ever came to you for information in connection with trouble which they were having with Benjamin sockets?

A. No, sir; I believe I overcome that by difficulties with the construction.

Redirect examination.

By Mr. Wolhaupter:

R. D. Q. 75. From your experience with the Benjamin socket of the type about which you have testified what have you found to be the case with respect to its durability and efficiency for the purpose for which it was intended?

A. None better. That is why I remember the socket so distinctly, because when it first came on the market and we first saw it, our comment was that it was the best socket that we ever saw; and so it is with all mechanics, when they receive new material
497 they will either condemn it or give it all its best merits right there and then.

R. D. Q. 76. Have you had any occasion from your further experience to change that opinion regarding the Benjamin socket?

A. I could not say that I have, truthfully.

Cross-examination resumed.

By Mr. Curtis:

X Q. 77. Have you ever seen the Benjamin type of socket having posts or studs riveted onto the cap in place of the indented portions, which posts engaged the notches in the porcelain base to prevent rotation?

A. Not until I saw this one here to-day. It is the first one to my knowledge that I ever saw of that type.

X Q. 78. Did you personally see this particular aluminum socket taken from the fixture at Twenty-eighth Street and Fourth Avenue?

A. No, sir.

X Q. 79. Then all you know about it is some one told you he had taken it from there, is that it?

A. The man went under my instructions to get it, from our office.

X Q. 80. And all you know about it is what he told you he did?

A. Yes, sir.

X Q. 81. Do you mean to say that since you became superintendent you have never taken apart or put together lamp sockets like these Benjamin sockets?

A. I cannot recall of ever doing so.

X Q. 82. Have you any written memoranda which fixes the date when you became superintendent?

A. I have a letter at home from the President of our Company, giving me authority as superintendant.

X Q. 83. When did you last see that letter?

498 A. I don't think I have seen that letter in ten years, but I am pretty sure that I have the letter in my safe at home.

X Q. 84. Do you now personally recollect the installation of sockets like these aluminum sockets in any particular place?

A. None other than the Manhattan Elevated Railways and subway.

X Q. 85. At what particular place on the Manhattan Elevated Railroad do you now distinctly recall installing those sockets?

A. I did not install them myself, but on Sixth Avenue, Twenty-eighth Street, Thirty-third Street, Fifty-ninth Street, Sixty-sixth Street stations, and in fact all the stations along the line up as far as One Hundred and Tenth Street my knowledge serves me that these sockets have been installed by the Company, and are still in use.

Mr. Curtis: Answer objected to as not responsive.

X Q. 86. Do you now distinctly recall any particular point or place where those sockets were installed on the Manhattan Elevated; by that I mean that you had personal knowledge of the installation and saw the socket being installed?

A. No, sir.

Redirect examination.

By Mr. Wolhaupter:

R. D. Q. 87. Give us any information, Mr. Purcell, as to how extensively you personally made installations of this Benjamin type of sockets prior to the Manhattan Elevated job about which you have testified?

A. No, sir, I cannot recall the jobs.

R. D. Q. 88. My question was as to the extent of the installations which you personally made of these sockets, and not as to any particular places?

499 A. I think there is two jobs that I installed them on, and that was—I think there is some of them on the White Star Line piers, and there is another building I done over on the West side that I had those sockets on; and I cannot recall the name of the building.

R. D. Q. 89. Can you give the year when you made the White Star Pier installation?

A. That was about two years before I went in as superintendent. That is, two years prior to 1900.

Recross-examination.

By Mr. Curtis:

R. X Q. 90. Have you any written memorandum which shows the date when you made the installation at the White Star Piers?

A. I may have it at home.

R. X. Q. 91. Have you referred to it to refresh your recollection as to the date?

A. No, sir.

Redirect examination:

By Mr. Wolhaupter:

R. D. Q. 92. Would the memoranda which you say you have at home, give any information as to the kind of fixtures that you were installing at the particular time?

A. If I had it, yes, sir; because my stock book would give me the information on all classes of material that was used on the job. I always keep a record of all material that comes on a job.

R. D. Q. 93. Were you not asked to look up these records before coming here to testify?

A. Those particular records? No, sir.

R. D. Q. 94. Will you make a search for those particular records and advise me whether they are found or not?

A. I shall; yes, sir.

R. D. Q. 95. When can you make that search?

A. To-night.

500 Mr. Wolhaupter: Counsel for the Defendant desires to note on the record that the witness has promised to make a search for this written memoranda referred to, this evening, and if found to be pertinent to the questions involved herein, offers to recall the witness for the purpose of introducing this memoranda in evidence, and for the purpose of cross-examination, if desired, by counsel for the Complainant.

RICHARD F. PURCELL.

N. A. CORNELL, called as a witness on behalf of the Defendant, being duly sworn, testifies as follows:

Direct examination.

By Mr. Wolhaupter:

Question 1. Please state your name, age, residence and occupation?

Answer. 43; Engineer, electrical engineer, business address you mean?

Q. 2. Yes?

A. 114 West 30th, the Tucker Electrical Construction Company. My name is N. A. Cornell.

Q. 3. In what capacity are you connected with the Tucker Company?

A. Engineer.

Q. 4. How long have you been connected with that company?

A. More than twenty years.

Q. 5. What is the character of the work that this company is engaged in?

A. Construction work; electrical construction work.

Q. 6. Mr. Cornell, I call your attention to two electrical lamp sockets which have been offered in evidence in this case and marked respectively, "Defendant's Exhibit, Benjamin Socket," and
501 "Defendant's Exhibit, Benjamin Socket Metal Lamp Sleeve." Please examine these two exhibits, and state what if anything you know about lamp sockets of the construction of these two exhibits, and if you have previously known of such lamp sockets, how long have you known of them?

A. I have always known these as the Benjamin Sockets, and I have known them for about fifteen years. I have known them since 1900 anyway. I have known them since 1900, let it go at that. That type of socket, you know, particularly this type—well I know both types.

Q. 7. Please state how you first learned of these sockets?

A. In connection with the estimate for the electrical equipment of the Manhattan Elevated Stations.

Q. 8. Can you fix the date of those estimates, and at the same time state by whom the estimates were given?

A. The estimates were made either in 1900 or before. Let me get that straight now. Yes, in 1900 or before—well I can say this, that it was before 1900. The estimate was made by myself for the equipment of the Manhattan Elevated Station and the contract was closed by myself for that job. I can tell exactly by looking up my records of course. I have not tried to fix any dates in mind before coming down here and I didn't look the thing up. That is as good an answer as I can give you, sir. The estimate was made of course a considerable time before the work was done.

Q. 9. You say you made the estimates?

A. As an employee of the Tucker Electrical Construction Company.

Q. 10. Are you able to give a date, Mr. Cornell, as to when any installations were actually made of these Benjamin sockets?

A. I should say in 1900 or 1901.

Q. 11. Where?

502 A. On the elevated station platforms—various ones. I cannot recall which was the first one done. It was probably downtown, but I could not positively state.

Q. 12. Were those installations made by the Tucker Electrical Company?

A. Yes, sir.

Q. 13. From whom did the Tucker Electrical Company obtain these Benjamin sockets for the installations you refer to?

A. The General Electric Company.

Q. 14. Are you able to give any information as to the quantity of these sockets which were ordered by the Tucker Electrical Company for those installations?

A. Eight to ten thousand.

Q. 15. Have you in your possession any records or vouchers show-

ing this purchase of these sockets from the General Electric Company?

A. I think not; we destroy our vouchers after five or six years. The name of the General Electric man who conducted the sale was Mr. Lyman Clark.

Q. 16. Of this city?

A. Yes, sir. Mr. Lyman Clark was then salesman for the General Electric Company. He is still salesman in another office, but still in this city.

Q. 17. Were the installations to which you refer, the first installations in which you used the Benjamin socket like the two exhibits before you?

A. To my knowledge, yes, sir. The socket of course was not exactly like these. We did not use brass shells. We used aluminum shells more like this one (indicating), but the type of the socket was the same. (Witness refers to Defendant's Exhibit, Aluminum Sample Benjamin Socket.)

Q. 18. Has your company, the Tucker Electrical Company, made any other use of this type of socket since the installations you referred to?

A. Yes, sir, in the subways.

Q. 19. How extensive has been that use?

503 A. Very large.

Q. 20. Could you approximate the number of sockets that you have used?

A. Probably twenty or thirty thousand.

Q. 21. How recent has been your use of this type of Benjamin socket?

A. I am now using them.

Q. 22. Of the same construction as the exhibits shown to you?

A. No, sir. They have revised this manufacture of sockets to some extent.

Q. 23. What is that?

A. They have revised the exact design of the socket to some extent.

Q. 24. Are you able to state approximately how long it has been since you have used in your work the Benjamin sockets of the type of these two exhibits; that is, with the pressed in indentations in the cap portion of the shell?

A. I should say eight or ten years.

Q. 25. You spoke of referring to records in connection with your original estimates for the elevated job and have also mentioned the fact that you have destroyed some of your records. What records have you still in existence that would bear on this question

A. The plans?

Q. 26. Plans?

A. Plans; yes, sir.

Q. 27. Are you willing to produce the plans to which you refer, and bring them here after luncheon?

A. I will produce them through Mr. R. F. Purcell, our superintendent.

Cross-examination.

By Mr. Curtis:

X Q. 28. In the business of your company, do you have occasion to use quantities of lamp sockets of other kinds than this Benjamin type of socket

A. Yes, sir.

504 X Q. 29. Do you use a good many snap shell sockets?

A. Yes, sir.

X Q. 30. What makes of snap shell sockets do you use?

A. We use considerable of the Weber snap shell socket, and others that I cannot list to you for the reason that we buy most of the fixtures that take other types complete with sockets from fixture houses, and accept any standard socket.

N. A. CORNELL.

CHARLES A. KABAT, called as a witness on behalf of the Defendant, being first duly sworn, testifies as follows:

Direct examination.

By Mr. Wolhaupter:

Question 1. What is your name, age, residence and occupation?

Answer. Charles A. Kabat; age, forty; 2829 Fulton Street, Brooklyn; electrician.

Q. 2. How long have you been engaged in this business?

A. About twenty years.

Q. 3. Please explain the line of work which you have engaged in?

A. Electrical construction work.

Q. 4. Did that include actual work on jobs, such as wiring and putting up fixtures?

A. Yes, sir.

Q. 5. How extensive has been your experience in installing and wiring lamp sockets?

A. I have done all classes of electrical construction in buildings and outside and wiring.

Q. 6. Go right ahead?

A. Installing lighting—lights, machinery, that is electrical generators and motors, telephone and bell work.

505 Q. 7. And lamp sockets?

A. Lamp sockets, sure.

Q. 8. During this line of work have you become familiar with the various kinds of electrical lamp sockets that have been on the market?

A. Yes, sir.

Q. 9. I call your attention to the three exhibits which have been offered in evidence in this case and marked respectively "Defendant's Exhibit, Benjamin Socket," "Defendant's Exhibit, Benjamin Socket

Metal Lamp Sleeve," "Defendant's Exhibit, Aluminum Sample Benjamin Socket." Are you acquainted with these types of socket?

A. Yes, sir, I am, this type here. (Witness refers to Defendant's Exhibit, "Benjamin Socket Metal Lamp Sleeve.") And this, with the aluminum shell.

Q. 10. State how long you have known of this type of socket?

A. Well, I have known of this type of socket since about 1899 or 1900.

Q. 11. Or 1900, you say?

A. Yes, sir, between those years.

Q. 12. Where and how did you first become acquainted with this type of lamp socket?

A. I saw them—that is I saw—I installed them in Washington, D. C., for the National Supply Company, which were contractors as well as supply house men.

Q. 13. Do you recall where these installations were made in Washington at that time?

A. I am not positive, but I think they were installed at the Potomac Electrical Company station, and other jobs which I do not recall. I remember the socket well.

Q. 14. How are you able to say that it was in 1899 or 1900 that you made installations of this type of Benjamin Socket in Washington, D. C.?

A. Well, it was along about those years that I was working there; I was residing in Washington.

506 Q. 15. When did you leave Washington?

A. I left there in 1891.

Q. 16. You mean 1901?

A. 1901. I get that twisted up.

Q. 17. Where did you go to when you left Washington in 1901?

A. I went to Pittsburgh.

Q. 18. In what kind of work were you engaged in Pittsburgh?

A. Electrical construction.

Q. 19. Did you install any of these Benjamin Lamp sockets in Pittsburgh?

A. I don't remember whether I did or not.

Q. 20. How long were you in Pittsburgh?

A. I was there ten months.

Q. 21. Then where did you go to?

A. I came to New York.

Q. 22. Have you been here ever since?

A. I have been here ever since, yes.

Q. 23. Since returning to New York have you had occasion to personally make any installations of this Benjamin type of lamp sockets?

A. Yes, sir.

Q. 24. To what extent and in what places have you made such installation?

A. Well, I have not used an awful lot of them, but possibly fifty of them.

Q. 25. Will you name some of the places?

A. They were installed in the Brooklyn Rapid Transit sub-stations which was wired by the——

Q. 26. You mean subway stations?

A. No, sub-stations. That is, the rotary stations over in Brooklyn.

Q. 27. Can you give the date when you made installations of this Benjamin type of socket in Brooklyn at the sub-stations?

A. Well, there was one station there in December, 1903, that was the first station that we wired.

Q. 28. What is the name of that station?

507 A. Sand Street sub-station. Then there was another at Halsey Street sub-station.

Q. 29. How do you fix the dates when you made these installations in Brooklyn of the Benjamin socket?

A. That is the first job that Hatzel & Buehler did over there; they had all the jobs over there except one station that was finished by the United Electric Company, that was Fulton and Essex Street, that was done prior to the others. I had to go up to Essex Street sub-station to look that over and wire the others just the same way, the same class of construction.

Q. 30. Have you any written memoranda, letters or other data confirming your recollection of these dates?

A. Well, I may possibly have the order which I got from the office to go ahead with the work there, but I am not sure whether I still have that. I had those orders up to about a year ago.

Q. 31. How are you able to fix the year definitely as when you made installations of these Benjamin sockets in Brooklyn?

A. I used to save all the slips that the Company used to give me when they wanted me to go out on a job. They would give me a slip with an order number to it when they wanted me to go out. I used to save all those slips, and it was near a year ago that I saw those slips.

Q. 32. What Company do you refer to?

A. Hatzel & Buehler.

Q. 33. How recently have you made installations of the Benjamin type of socket like the sample before you?

A. I have not used them since that time, I do not believe I have; I don't think I have used any of them, because I have been out of there since 1905. That is the time of the lockout there and I walked out and I went into business for myself and I never had any

508 occasion to use any of these sockets for myself.

Q. 34. Do you know the purpose of the indentations which appear in the cap portions of these sockets?

A. Yes, sir.

Q. 35. What is the purpose?

A. That is to prevent the porcelain part inside from turning.

Q. 36. Have all of the installations which you have ever made of these Benjamin type of sockets been of the same construction, that is, with these indentations in the cap?

A. Yes, that was the only kind I ever saw.

Q. 37. Was there any difference in construction between the Ben-

jamin sockets which you installed in Washington and the Benjamin sockets which you installed in Brooklyn?

A. Not to my knowledge; I believe they were the same type of socket.

Q. 38. Was there any difference between these sockets which you installed in Washington and Brooklyn as to the feature of the indentation in the cap?

A. No, sir, none at all.

Cross-examination.

By Mr. Curtis:

X Q. 39. Did the Benjamin socket which you installed in Washington have brass or aluminum shells?

A. Well, the ones that we had in Washington I believe had a brass shell; I am not positive about it, because I don't remember whether there was—but I have a faint recollection of its being a brass shell.

X Q. 40. If it were not for the dent in the cap of this Benjamin socket, what would be the effect upon the porcelain and the wires when the sleeve of the shell is screwed into the cap?

509 A. The only thing it would do, it would simply twist the wire when the lamp is screwed in.

X Q. 41. That is, the porcelain would turn with the sleeve, as the sleeve was screwed in?

A. Well, it would not turn with the sleeve; the porcelain would turn itself with the lamp.

X Q. 42. I am speaking now about assembling the socket, and not about inserting the lamp in the socket. In the operation of putting the shell together when the sleeve part is screwed into the cap, the cap as I understand it is fixed upon a fixture or pipe, is it not?

A. Yes.

X Q. 43. And therefore cannot rotate?

A. Yes.

X Q. 44. Then as you screw the sleeve into it, if it were not for these dents which prevents the porcelain from rotating, the porcelain would rotate with the sleeve, which would twist the wire; is that right?

A. Yes, it would twist the wires. Of course these sockets, the shell could be screwed in without twisting the porcelain, because the porcelain projects outside of the shell. A socket like this could be screwed without even turning this part, because it projects out.

X Q. 45. Did you ever see this done?

A. Oh, yes; yes.

X Q. 46. Then you had seen these sockets without the indentations in the caps?

A. No, I have never seen a socket without the indentations; they have all had them; they have all had them there. All the sockets I have ever seen had the indentation there. What I meant was that you could screw that shell together without twisting this porcelain, regardless of the indentation in there.

X Q. 47. I show you Defendant's Exhibit "General Electric Socket." Have you ever installed sockets like that?

A. I have not. No, sir, none of those sockets.

510 Redirect examination.

By Mr. Wolhaupter:

R. D. Q. 48. Do I understand correctly from your cross-examination that in installing sockets of this type particularly at railway stations that the same are mounted on the end of a pipe?

A. Well, they can be mounted on the end of a pipe, and they can also be mounted on a fixture without a long pipe; with a short pipe and nipple. They can be installed in several different ways. Of course, on a pipe, if you install it on a pipe, it doesn't make a particle of difference about the indentation, because you can turn the whole business on the pipe with the wire and all in it. Of course, there is some where it would make a difference. It is all according to the conditions of the job.

R. D. Q. 49. Then under such conditions, that is, installations of this socket with the pipe, would it make any difference where the indentations were located?

Mr. Curtis: Objected to as calling for expert testimony, and as hypothetical.

A. If it was installed on the pipe it would not make any difference where the indentations were, whether they were in the body or in the cap or in the shell. It would not make any difference because the socket could be wired up and then screw it onto the pipe with the wire in it. It could be screwed on without injuring the wiring in any way. Of course, in other cases it would not be practical. It is all according to the conditions of the job. For instance, where you have a stem or piece of pipe, and the piece of pipe screws onto an outlet box where you have to make a splice in the outlet box it would not make any difference whether the indentations was in the side or where it was. If it was a rigid
511 pipe where there was all one piece, why of course, you could not very well do it without twisting the wire inside of the pipe.

Recross-examination.

By Mr. Curtis:

R. X Q. 50. Do you think the Board of Underwriters would approve of a construction which made it necessary to twist the wires either in putting the socket on the nipple or in screwing together the pipe and the socket?

A. Well, that of course, I could not answer what the Underwriters would do. Where it goes onto a nipple or onto a piece of pipe, if it is screwed onto an outlet box, it wouldn't make any difference, because the wire would not be twisted in the pipe any

how. Where it is a rigid pipe and it is screwed on there, it is naturally going to twist the wires up in the pipe because the wires are running for some distance, and the wire would not twist the full length of the pipe. But in a short pipe the wire would turn with the socket instead of the pipe.

CHARLES A. KABAT.

512 EDGAR H. FREEMAN, called as a witness on behalf of the Defendant, being first duly sworn, testifies as follows:

Direct examination.

By Mr. Wolhaupter:

Question 1. State your name, age, residence and occupation?

Answer. Edgar F. Freeman; residence, 701 Monmouth Street, Trenton, New Jersey; manufacturer of electrical supplies; age, fifty years.

Q. 2. How long have you been engaged in the business of electrical manufacturing?

A. Since 1901.

Q. 3. What were you engaged in prior to that date?

A. Electrical construction.

Q. 4. Since what date?

A. 1891.

Q. 5. What is your official connection with the E. H. Freeman Electric Company, the Defendant in this suit?

A. President.

Q. 6. How long have you been the President of that Company?

A. Since it was organized in March, 1904.

Q. 7. What line of goods are manufactured by your company?

A. Sockets; cut-outs, rosettes.

Q. 8. A general line of electrical supplies?

A. General line of porcelain electrical specialties.

Q. 9. How long has your company been manufacturing electric lamp sockets?

A. Since 1908.

Q. 10. The record herein shows that the defendant company has been manufacturing and selling electric lamp sockets of the construction represented by "Complainant's Exhibits of Defendant Key socket and Defendant's keyless socket." I show you a specimen of these sockets, and ask you to state if you know who devised the construction of these sockets?

513

Mr. Curtis: Objected to as immaterial.

A. I did.

Q. 11. Were patents obtained by you on these sockets?

A. Yes.

Q. 12. In whose name were those patents taken out?

A. In my name.

Q. 13. Were those patents assigned to the Defendant company?

Mr. Curtis: Objected to as not the best evidence.

A. No.

Q. 14. By what authority is the Defendant company manufacturing these lamp sockets?

Mr. Curtis: Objected to as not the best evidence, and if the authority is in writing, the writing should be produced.

A. Under an agreement with me.

Q. 15. Is that agreement in writing and duly executed?

A. Yes.

Q. 16. Will you produce the same?

A. I can and do. (Witness produces two documents.)

Q. 17. One of these instruments which you have just produced is dated February 11, 1909. The other of these instruments is dated January 1, 1914. Please explain to what these two instruments are directed and in what way they are related, if at all?

A. The one dated February 11, 1909, was the original agreement between myself and the company, which expired on January 1, 1914. The other is a continuation of the agreement of the original agreement.

Q. 18. In whose handwriting appears the signature Edgar H. Freeman on the agreement of February 11, 1909?

A. Mine.

Q. 19. In whose handwriting appears the signature Edgar H. Freeman on the instrument dated January 1, 1914?

A. Mine.

Q. 20. Please explain to what construction of brass shell socket did your original agreement refer in the second clause thereof, reading as follows: "Whereas the said Edgar H. Freeman has invented a brass shell socket adapted for use either with or without a key, for which inventions applications for letters patent have been made by the party of the first part, and which applications are now pending before the United States Patent Office"?

A. It referred to all of the applications for patents that I had pending at that time for key and keyless sockets.

Mr. Wolhaupter: The originals of the agreements of February 11, 1909, and January 1, 1914, are now offered in evidence on behalf of the Defendant, and the Notary is requested to mark the same respectively, "Defendant's Exhibit Freeman Original License," and "Defendant's Exhibit Freeman Extension of License."

Mr. Curtis: Objected to as not shown to be connected with the matter in controversy, and further as incomplete, as from the paper dated January 1, 1914, it appears that the agreement dated February 11, 1909, was supplemented by an agreement dated July 1, 1911.

Defendant's Exhibit, "Freeman's Original License" is in full as follows:

"This agreement made and entered into this 11th day of February in the year one thousand nine hundred and nine, between Edgar

H. Freeman of the City of Trenton, in the County of Mercer and State of New Jersey, party of the first part, and E. H. Freeman Electric Company, a corporation duly organized and existing under and by virtue of the laws of New Jersey, with its principal office in the City of Trenton, County of Mercer, and state of New Jersey, party of the second part, Witnesseth:

"Whereas the said Edgar H. Freeman has invented a brass shell socket, adapted for use either with or without a key, for which inventions applications for letters patent have been made by the said party of the first part, which applications are now pending before the United States Patent Office.

"Whereas the party of the first part has agreed that the party of the second part shall have the exclusive license to manufacture and sell the articles embodying the said inventions thereinbefore mentioned.

"Now Therefore, for and in consideration of the sum of One Dollar lawful money of the United States, paid by the party of the second part to the party of the first part, the receipt whereof is hereby acknowledged, and of the covenants and agreements hereinafter mentioned, the said parties do hereby agree each with the other as follows:

"First. The party of the first part hereby covenants and agrees to give and does hereby give unto the party of the second part the exclusive right to make and sell the articles embodying
516 the invention hereinbefore described.

"Second. In consideration of the foregoing the party of the second part hereby agrees to pay to the party of the first part, his executors, administrators or assigns, a royalty or license fee at the rate of one-half cent for each and every brass shell socket sold by them containing the inventions of the said party of the first part.

"Third. The party of the second part hereby agrees to keep an accurate account of all brass shell sockets sold by it or its agent, which account shall be open at all times to the inspection of the party of the first part or his representatives.

"Fourth. The party of the second part hereby agrees to render to the party of the first part on the first days of January, April, July and October in each and every year, a statement setting forth the number of brass shell sockets embodying the said inventions sold by it during the three months preceding the first days of January, April, July and October.

"Fifth. The said party of the second part hereby agrees to pay to the party of the first part within thirty days after the rendering of the statement aforesaid, the royalties on all brass shell sockets mentioned in said statement except in case of a suit pending against the party of the second part, on articles referred to in this agreement for infringement of letters patent.

"Sixth. It is further agreed that all articles embodying the said invention made or sold by the party of the second part, shall be known commercially and sold under the name of "The Freeman Security Socket."

517 "Seventh. It is further agreed that the minimum royalty to be paid by the party of the second part for any calendar year is to be two hundred dollars.

"Eighth. It is further agreed that in the event of any action or actions being brought against the party of the second part, or any person, firm or corporation, using or selling said brass shell sockets, by any person, firm or corporation, for infringement of letters patent, by reason of the manufacture, sale or use of said articles, herein mentioned said party of the first part hereby agrees to assist the said party of the second part in defending said action or actions and any expense incurr*ing* in defending said action or actions, or any judgment or judgments that may be recovered therein, shall be divided and borne equally between the party of the first part and the party of the second part.

"Ninth. This agreement shall cover co-jointly any improvement made on said brass shell sockets and it is hereby understood that any other inventions made by the party of the first part during the life of this contract or any renewal of same shall be the property of the party of the second part.

"And it is Further Agreed that this agreement shall be in force until January 1st, 1914, and that the said party of the second part shall at its option have the privilege of renewing this contract for a further term to expire concurrently with the letters patent, which shall hereafter be granted to the party of the first part for said invention.

"In Witness Whereof the party of the first part has hereto set his hand and seal, and the party of the second part has caused these presents to be signed by its vice-president and its
518 corporate seal to be affixed the day and year as above mentioned.

EDGAR H. FREEMAN. [SEAL.]
E. H. FREEMAN ELECTRIC CO.,
By LAMBERT ALPOUGH,
Vice President.

Attest:

[Corporate Seal: "E. H. Freeman Electric Co. Incorporated 1904. Trenton, N. J."]

GEO. E. MAGUIRE,
Secretary.

Signed, sealed and delivered, in the presence of
JOHN T. VAN CLEEF,
Master in Chancery of N. J.

Defendant's Exhibit, "Freeman Extension of License" is in full as follows:

"This Agreement made and entered into this first day of January in the year one thousand nine hundred and fourteen, between

Edgar H. Freeman of the City of Trenton in the County of Mercer and State of New Jersey, party of the first part, and the E. H. Freeman Electric Co., a Corporation duly organized and existing under and by virtue of the laws of New Jersey, with its principal office in the City of Trenton, County of Mercer, and State of New Jersey, party of the second part:

"Witnesseth, An Agreement was entered into by and between the above parties on the eleventh day of February in the year one thousand nine hundred and nine, and said Agreement contains the following:

"'and it is further agreed that this Agreement shall be in force until January 1st 1914, and that the said party of the second part shall at its option have the privilege of renewing this con-
519 tract for a further term to expire concurrently with the letters patent which shall be granted to the party of the first part for said invention.'

"Now therefore, in accordance with this Agreement, the said parties do hereby agree to renew the said contract as specified therein, until the expiration of the letters patent as granted, and it is further agreed that the Agreement entered into by the said parties on the first day of July in the year one thousand nine hundred and eleven supplementing the first mentioned Agreement, shall also be extended until the expiration of the letters patent as above mentioned.

"In witness whereof the party of the first part has set his hand and seal, and the party of the second part has caused these presents to be signed by its Vice President and its corporate seal to be affixed the day and year as above mentioned.

EDGAR H. FREEMAN.
E. H. FREEMAN ELECTRIC CO.
I. W. MARGERUM,
Vice Pres.

Attest:
GEO. E. MAGUIRE,
Sec'y.

Signed, sealed and Delivered in the presence of
ADELAIDE HENRY.

Q. 21. Referring to your extension license agreement, marked "Defendant's Exhibit Freeman Extension License," I call your attention to the fourth paragraph thereof, wherein mention is made of an agreement dated July 1, 1911. Did that agreement of July 1, 1911, relate to the same or a different subject matter from
520 the agreement of February 11, 1909?

Mr. Curtis: Objected to as not the best evidence, the paper should speak for itself.

A. The same.

Q. 22. Will you produce that agreement also?

A. I will, only I have not it here. It was not an extension, it was a difference in royalties, that was all.

Mr. Curtis: The objection is renewed to the answer, that is, the last statement of the witness.

Q. 23. Is this supplemental paper of July 1, 1911, private and confidential in its nature?

Mr. Curtis: Objected to as not the best evidence.

A. Yes.

Q. 24. Would you have any objections to exposing it to counsel for complainant and filing it in this case?

Mr. Curtis: The same objection and as leading.

A. No, I would not.

Q. 25. I call your attention to an Exhibit already filed in this case, marked, "Defendant's Exhibit Freeman Patent No. 927,344," and would ask you to state what, if any, relation this particular patent has to the Defendant's sockets referred to herein, and to the contracts about which you have testified to-day?

A. This is the patent of the Defendant's socket being manufactured by the Freeman Company, and one of the patents referred to in the agreement.

521 Q. 26. I would ask you the same question in connection with the re-issue patent of Edgar H. Freeman, No. 13,247, May 30, 1911; that is, what relation, if any, this re-issue patent has to the "Defendant's socket" made by the Defendant company, and what relation, if any, it has to the agreements about which you have testified?

A. This patent has the same relation to the socket and the agreements that the original patent had.

Mr. Wolhaupter: Counsel for Defendant now offers in evidence a certified copy of the re-issue letters patent of Edgar H. Freeman No. 13,247, granted May 30, 1911, the same to be marked "Defendant's Exhibit Freeman Re-issue patent."

It is stipulated that verified copies of the two agreements offered in evidence may be used in lieu of the originals, subject to the production of the originals at the hearing, if demanded.

A recess was here taken until 2:30 P. M.

EDGAR H. FREEMAN resumes the stand, and testifies as follows:

Cross-examination.

By Mr. Curtis:

XQ. 27. From such of the agreements as you have produced it would appear that you are to receive a royalty for all the sockets made and sold by the Freeman Electric Company; is that correct?

A. Yes sir.

X Q. 28. And is that royalty withheld during the pendency of the litigation over those sockets?

Mr. Wolhaupter: Objected to as immaterial.

522 A. No, sir.

X Q. 29. Is your experience with the E. H. Freeman Electric Company your first experience in manufacturing and selling lamp sockets?

A. No, sir.

X Q. 30. With what business of manufacturing and selling lamp sockets were you previously connected?

A. The Genesee Electric Company; the Rochester Electrical Works, and the Crescent Electric Manufacturing Company of Rochester, all of Rochester.

X Q. 31. Did each of these companies make incandescent electric lamp sockets?

A. Yes, sir.

X Q. 32. How did those sockets made by each of those companies differ from the sockets which the E. H. Freeman Company makes?

A. The interior was similar, but the shell was different.

X Q. 33. Please explain the differences?

A. The Rochester Company manufactured what is known as the Lange type of shell, and the Freeman Company manufactured the snap type.

X Q. 34. What was the last business you were engaged in or connected with in making and selling sockets before engaging with E. H. Freeman Company?

A. The Genesee Electric Company.

X Q. 35. Who was associated with you in that business?

A. Mr. George M. Wetmore.

X Q. 36. What was the outcome of that business?

Mr. Wolhaupter: Objected to as immaterial.

A. It was discontinued.

X Q. 37. Was it discontinued on account of suits brought against it?

Mr. Wolhaupter: Objected to as immaterial.

523 X Q. 38. Or threatened to be brought against it by the General Electric Company under its patents?

Mr. Wolhaupter: Same objection.

A. Yes, because they threatened to bring suit.

X Q. 39. And when was that business discontinued of the Genesee Electric Company.

A. 1902.

X Q. 40. And you started with the new business which is now the business of the E. H. Freeman Company about what time?

A. I don't know as I know what you mean.

X Q. 41. About what date did you start in with that socket?

A. We started making the sockets in 1908.

X Q. 42. When you were threatened with suit by the General Electric Company, while doing business as the Genesee Electric Company, did you make any effort to get up different constructions to get around the General Electric Company's patents, under which you were threatened?

Mr. Wolhaupter: Objected to as irrelevant and immaterial.

A. Why, I made some models but never done anything with them.

X Q. 43. There is also pending, is there not, a suit by the Weber Electric Company against the E. H. Freeman Company for alleged infringement of the Weber Patent No. 743,207, which relates to the switch mechanism of the key socket?

A. Yes.

X Q. 44. What became of the business of the Rochester Electric Company and the Crescent Electric Company?

A. The Rochester Electric Works was sold to the Genesee
524 Electric Company, and the Crescent Company was continued after I left them: it was continued by other parties.

X Q. 45. Is the Crescent Electric Company still in business?

A. I do not think so.

X Q. 46. What kind of sockets did the Crescent Electric Company make?

Mr. Wolhaupter: The former objection is repeated to all of this.

A. They made porcelain sockets.

X Q. 47. The porcelain socket is a socket having a porcelain shell instead of a metal shell, is it not?

A. Yes.

X Q. 48. When did the Weber snap shell socket come to your attention? Was it about the time it was put upon the market in 1904 or 1905?

A. I don't remember.

X Q. 49. Well, what is your first recollection of it?

A. I don't remember when it was put out.

X Q. 50. Never mind when it was put out. I say, what is your first recollection of it?

A. I don't know just what time it was.

X Q. 51. You have no recollection at all on the subject?

A. I couldn't give any dates.

X Q. 52. Well, was it before or after you designed the socket which the E. H. Freeman Company put out in 1908, that you first saw the Weber snap shell socket?

Mr. Wolhaupter: Objected to as immaterial.

A. I designed one before I ever saw the Weber but it was a little different from the one that we manufactured.

X Q. 53. Why didn't you put that one out on the market?

525 A. Because the later one was an improvement on the former, as it had four—it had four locking places where the former only had one.

X Q. 54. You remember about when you first saw a copy of the Weber patent No. 743,206?

A. I do not.

X Q. 55. Was that before or after you designed the socket which the E. H. Freeman Company put out in 1908, that you first saw the Weber Patent No. 743,206?

Mr. Wolhaupter: The former objection is repeated.

A. I could not say.

X Q. 56. You cannot say whether you were familiar with the incandescent electric lamp sockets on the market from 1904 up to the time you designed this socket, which is now in use as Defendant's socket? Is that it?

A. I believe I was familiar with the most of them.

X Q. 57. Have you any idea how long it was after the Weber snap shell socket first came upon the market before it came to your attention; that is, as to whether it was six months or a year, or two years or three years or four years?

A. I don't think it was very long after it came out, but I don't remember any dates.

X Q. 58. You say you designed a somewhat different form of socket casing before you designed the form which is embodied in the Exhibit "Defendant's socket." How did you come to go at that matter of designing or getting up a new form of sprocket casing?

A. I tried to improve on the Kenney socket, which did not have a positive lock.

X Q. 59. But at any rate, you did have knowledge of the Weber snap shell socket before you designed the socket which is now in evidence as "Defendant's socket"?

A. Yes, sir.

526 X Q. 60. And in working out that construction, did you familiarize yourself with the patent art relating to socket castings?

A. I made a search in the Patent Office to see if there was anything like what I had.

X Q. 61. Do you know when it was that you designed the socket casing which was different from the present casing and which you say you were doing to improve upon the Kenney socket?

A. It was between 1902 and 1904.

X Q. 62. What did you do about the matter of the casings then, from 1904 to the time when you designed the present form of casing which is in issue here?

A. I practically did nothing with it, except studied it over and saw if I could improve on that. We did not have capital enough to start in the manufacture of it. I waited until I got up the present socket, and then was able to interest capital.

X Q. 63. Do you consider that the socket which you finally de-

signed and which is the socket here in issue as "Defendant's socket" was a material improvement on the Kenney socket?

A. Yes, sir.

X Q. 64. What do you consider made it better than the Kenney socket?

A. Because it did not twist off as easy. It did not loosen from the cap as easily as the Kenney socket.

X Q. 65. Was that due to the fact that the lock was formed in the Freeman socket, like the Defendant's socket, by a post having perpendicular sides which engaged a perforation in the sleeve, or if not, what was it?

A. Because it had square locking lugs instead of oval.

X Q. 66. By square, you mean with reference to the unlocking movement, and not to the cross sectional form of the lug, do you not?

A. Yes.

X Q. 67. That was what I meant by the term perpendicu-
527 lar. Then as I understand it, you think the Defendant's socket is materially better than the Kenney socket because the square or perpendicular engagement positively prevents the unlocking movement. Is that correct?

A. Yes.

X Q. 68. Did you ever try to make this locking post on your socket by merely punching up a projection or boss from the sheet metal of the cap?

A. No, sir; not in the cap; we did make some bases to set in the porcelain to have round drawn holes that acted the same as a rivet.

X Q. 69. I am referring now only to the posts on the flange of the cap which engaged the bayonet slot and the locking aperture on the sleeve of the socket. What I wish to know is whether you ever tried making those posts by merely bending or punching in the sheet metal instead of riveting on little blocks to make the posts?

A. You mean the cap.

X Q. 70. I mean the post that does the locking?

A. We used it in a porcelain base, but we only used it a little while and found it was not satisfactory. Instead of making that rivet, we drew up a union.

X Q. 71. I don't think you understand the question. Will the reporter please read the question? (Question read as follows.) I am referring now only to the posts on the flange of the cap which engaged the bayonet slot and the locking aperture on the sleeve of the socket. What I want to know is whether you ever tried making those posts by merely bending or punching in the sheet metal instead of riveting on little blocks to make the posts?

A. Never on a cap and shell fastening.

X Q. 72. Do you see any advantage in being able to assemble the cap and sleeve of the socket casing by a telescopic movement having a rotational component instead of by a direct or straight telescopic movement?

528 A. Yes.

X Q. 73. Why do you think it is better?

A. Because you can get a stronger lock.

X Q. 74. Do you see any advantage in riveting on a locking post rather than in forming the post from punching up the sheet metal of the part itself, in a fastening for lamp sockets such as Defendant's socket and Plaintiff's socket therein?

A. Yes.

X Q. 75. Which do you think is the better way?

A. Because in drawing up the metal you cannot—because in drawing up the metal you are limited to a certain height, and by riveting it on, riveting on a lug, you can have the lugs with squarer shoulders and as long as you like, to hold the cap and shell together securely.

Redirect examination.

By Mr. Wolhaupter:

R. D. Q. 76. Do you know who is manufacturing and marketing the Kenney socket that you referred to?

A. The Yost Electrical Company, isn't it?

R. D. Q. 77. I am asking you?

A. Yes, the Yost Electric Manufacturing Company.

R. D. Q. 78. Of Toledo, Ohio?

A. Yes.

R. D. Q. 79. Which socket did you see first on the market, the Kenney socket of the Yost Company, or the Weber socket?

A. The Kenney.

Mr. Curtis: Counsel for Complainant wishes it understood that his objections with reference to the agreements produced by the witness stand both as to the agreements offered in evidence and the copies to be substituted therefore. No objection is made to the copies on the ground that they are copies.

Signature waived.

529 N. A. CORNELL, recalled as a witness for the Defendant, testifies as follows:

Direct examination.

By Mr. Wolhaupter:

Q. 30. In your testimony earlier in the day, you explained that the records and files of the Tucker Electrical Construction Company up to a certain period had been destroyed, but that you did keep plans of work bid upon?

A. Not work bid upon; work actually performed.

Q. 31. Work actually performed. You offered to make a search through the files of your plans to endeavor to locate those relating to the Manhattan Elevated job in which you installed Benjamin sockets. Have you made that search?

A. A partial search, and found some plans.

Q. 32. And you were able to find some plans?

A. I made a partial search, and I found these plans, and then I stopped looking.

Q. 33. Can you produce the plans that you found?

A. Yes, sir. (Here the witness produces a number of blue-print drawings.)

Q. 34. I call your attention to one of these plans marked Sheet No. 72, bearing date of May 17th, 1899, and entitled, "Station Lamp Hanger, Manhattan Railroad Company;" please explain to what transaction that plan related?

A. That is one of the plans included in those sent with the specifications for estimate.

Q. 35. By whom?

A. By the Manhattan Railway Company's engineer.

Q. 36. Who was that made by?

A. It was drawn by a man by the name of F. R. Strauss. Drafted by F. R. Strauss, and checked by Hugh Hazelton.

530 Q. 37. In whose employ were those parties?

A. Manhattan Railway Company.

Q. 38. I notice that this plan "Sheet No. 72" has thereon the name of Benjamin socket. What was the type of socket referred to there?

A. The type of socket that we actually purchased and installed.

Mr. Curtis: Objection is made to the last question and answer on the ground that the plans speak for themselves.

Q. 39. Are you able to give the date when this particular plan came into the possession of your company?

A. Between May 17th, 1899, and the year 1900.

Q. 40. How are you able to state that fact with reference to the year 1900?

A. Because our books show that we were working on the work early in 1900 and the estimate was made two or three months previous to the starting of the work.

Mr. Curtis: Objection is made to the reference as to what the books show as hearsay; and objection is made to the whole answer of the witness as apparently not being testimony from his own knowledge.

Q. 41. In what way did you personally participate in the matter of this contract with the Manhattan Elevated Company at the period you mention?

A. In making up the estimate and in submitting it, and closing the contract and supervising the engineering of it for our company.

Q. 42. At that time did you know of more than one kind or type of Benjamin socket on the market?

A. I did not.

Q. 43. How did the type of Benjamin socket then on the
531 market compare in construction with the specimen which I now show you? (Shows witness aluminum socket.)

A. That is practically the socket.

Q. 44. What if anything, did you have to do personally with the purchase of the socket, the Benjamin sockets, that were installed by your company under the Manhattan Railway Company contract?

A. I conducted the conferences with the General Electric Company, and finally decided on the price, and closed the contract with them.

Q. 45. I call your attention to a second one of these blueprint plans bearing the number 176, and entitled "Manhattan Railway Company's Study of Change of 99th Street Station, Third Avenue Line," and would ask you to state if you have any personal knowledge of what transaction this plan refers to?

A. That formed part of the estimate of the entire system. The red marks on the plans were made by myself in getting out the estimate of costs.

Q. 46. When were these red marks and indicia placed on this plan by you?

A. Previous to 1900.

Q. 47. I show you a third blue print plan bearing drawing number 308 over 27, and entitled "Manhattan Railway Company Plan of Station and Track at South Ferry" and would ask you to say if you know to what transaction that plan related?

A. Part of the estimated plan, the red ink marks on the plan being placed on the plan by myself in getting costs of work for the entire system of the Manhattan Electrical work previous to 1900.

Q. 48. When were the red ink marks and the red ink indicia placed on those plans?

A. Previous to 1900.

Q. 49. By whom?

A. By myself.

Q. 50. I show you a fourth blue print plan marked "Southern Boulevard," and also entitled "Manhattan Railway Company,
532 Suburban Branch, Plan of 133d Street Station," and I ask you to state, if you know, to what transaction that plan relates?

A. The plan relates to the actual installation of the work on the station named.

Q. 51. On this plan appear red penciling and red indicia. Please state if you know, who placed same on there?

A. They were placed there by myself.

Q. 52. When?

A. I cannot tell you exactly when, because of the stations in the upper part of the city were given to us at a later time than the work was started. We started down at the Battery and worked uptown, working one gang of men on each side. Many of the stations up in Harlem and up in the extreme end were given to us at a considerably later date, and I cannot tell you exactly when, except it was previous to the finishing of the job; it was previous to 1902.

Q. 54. The entire job?

A. Not the entire job. They gave us additional work, power houses and sub-stations. The original contract was completed in 1902.

Q. 55. I call your attention to the fifth one of these blue print plans that you have produced—Sheet No. 890, and entitled, "Details of Proposed Head and Connections for Lamp Post for Station

Lighting, Manhattan Railway Company." Please explain to what transactions this relates?

A. That was a blue print submitted to us by the Manhattan Railway Company Engineers because of changes in the lamp posts, which were placed on those portions of the platform not covered by canopies. The original contract contemplated plain iron posts made of pipe; the engineer or architect of the station decided that they were not in keeping with the character of the stations, and the Engineering Department of the Manhattan Elevated Road made a design of lamp post to fit on the top of the railing posts, and this was
533 the goose-neck—this plan referred to is the plan of the goose-neck placed at the top of the cast iron posts. It was given to us toward the end of the work, as much of the work was completed before this change was made.

Q. 56. Do all of these blue print plans relate to what you have termed the original contract?

A. This last blue print would be an extra contract. The sockets are not covered in this last blue print; the sockets having already been included in the pipe posts of the original contract.

Q. 57. Did this original contract provide for and include any other types of lamp sockets than the Benjamin socket?

A. I think so, but I am not able to say positively. I think a plain porcelain receptacle was used in some cases; in fact, I am sure of it.

Q. 58. From the information which you have submitted, and from which you have refreshed your recollection, what would you say was the earliest date you can fix as to when you made the first installations under this contract of the Benjamin type of socket?

A. I should say late in 1900 or early in 1901.

Q. 59. And other installations of this same type of socket were continued thereafter by your company?

A. Yes, sir.

Q. 60. What is your best recollection now as to the last time your company made installations of this Benjamin type of socket like the aluminum sample with the indentations in the cap?

A. I should say eight or ten years ago.

Q. 61. Did your company find this Benjamin socket to be a satisfactory construction for the purpose intended?

A. We considered it very satisfactory.

Q. 62. How did it compare with other sockets for the same purpose on the market at the same time, as to efficiency and durability?
534 A. I know of no other socket on the market at that time that would accomplish the results that this socket would. The Western Electric Company submitted a socket to us and tried to get us to adopt it, but we considered the Benjamin better.

Q. 63. Would you consider that a satisfactory form of socket for modern day use?

A. With slight revisions, yes.

Q. 64. On this first print sheet, No. 72, appear I think, three initials?

A. Yes, sir.

Q. 65. Three separate sets of initials?

A. Yes, sir.

Q. 66. F. R. S.; F. R. S.; and H. H.?

A. Yes, sir.

Q. 67. Do you know what those initials stand for?

A. Well, I suppose I do. F. R. S. stands for a gentleman by the name of F. R. Strauss.

Q. 68. What is the last one there, H. H.?

A. H. H., the initials H. H. stand for a gentleman by the name of Hugh Hazelton.

Q. 69. Were you personally acquainted with these gentlemen at the date of that print?

A. Yes, sir.

Q. 70. What was the occupation of these men?

A. Mr. Hazelton was in charge of the electrical department, and Mr. Strauss was an inspector under him.

Q. 71. Where do they reside now?

A. Mr. Strauss is in the west, and Mr. Hugh Hazelton, 100 Broadway.

Cross-examination.

By Mr. Curtis:

X Q. 72. Do I correctly understand that you have had no personal knowledge of the making of the original drawings of which these blue prints are copies, or of the making of the blue prints themselves, or of the time when they were made?

535 & 536 A. I have not; excepting for the red marks, I had no such personal knowledge.

X Q. 73. Have these blue prints been in the possession of your company continuously ever since you received them at the time you stated?

A. Yes, sir.

X Q. 74. In the sheet numbered 72, and Sheet No. 890 you do not find any indentations shown in the caps of the sockets, do you?

A. No, sir.

X Q. 75. Have you any memoranda or writing made by yourself which enables you to fix the date when you received any of these blue prints, or when you made the red marks on them?

A. I think not. Let me glance at them a minute. It has been a good many years since I have seen these blue prints. (Witness examines blue prints.) No, sir, no marking of my own to indicate the date.

X Q. 78. I find on the back of sheet marked "Suburban Branch. Plan of 133d Street Station," written in pencil, "W. E. Baker, Esq. Gen'l Supt." How does Mr. Baker's name come to be on that blue print?

A. I knew Mr. Baker as the chief engineer of the Manhattan Elevated Railway Company; but how it came on that print I am not in a position to state. I don't know. It is not my writing.

X Q. 77. Do you know when it was put on it?
A. Not the slightest idea; no, sir.

Hearing adjourned without date.

N. A. CORNELL.

537 & 538 DEFENDANT'S EXHIBITS.

539 United States District Court, District of New Jersey.

In Equity.

WEBER ELECTRIC CO., Complainant,

vs.

E. H. FREEMAN ELECTRIC CO., Defendant.

DEFENDANT'S EXHIBIT ASSIGNMENT OF BENJAMIN PATENT No. 575,322 TO GENERAL ELECTRIC CO.

[Seal of I. V. Curran, Notary Public.]

2—391.

Department of the Interior,

United States Patent Office,

To all persons to whom these presents shall come, Greeting:

This is to certify that the annexed is a true copy from the records of this office of an instrument of writing

Recorded December 29, 1897, in Liber Z-56, page 265,

540 Said record has been carefully compared with the original and is a correct transcript of the whole thereof.

In testimony whereof I have hereunto set my hand and caused the seal of the Patent Office to be affixed at the City of Washington, this 3rd day of March, in the year of our Lord one thousand nine hundred and fifteen and of the independence of the United States of America the one hundred and thirty-ninth.

J. T. NEWTON,
Acting Commissioner of Patents.

[SEAL.]

Liber Z-56.
Page 265.

Assignment of Letters Patent.

Whereas, I, Reuben B. Benjamin, a citizen of the United States, residing at Chicago, County of Cook, State of Illinois, did obtain Letters Patent of the United States of America, for Improvements

in Incandescent Lamp Sockets, which Letters Patent are numbered 575,322, and bear date January 19th, 1897; and

Whereas, the said Reuben B. Benjamin, now the sole and exclusive owner of said Letters Patent and the invention therein described and claimed, and of all rights under the same; and,

Whereas, the General Electric Company, a corporation
541 organized and existing under the laws of the State of New York, is desirous of acquiring the entire right, title and interest in, to and under the same;

Now, therefore, To All Whom it May Concern, Be it known that for and in consideration of the sum of One Dollar to me in hand paid by the said General Electric Company, and other good and valuable consideration, the receipt of which is hereby acknowledged, I, the said Reuben B. Benjamin, have sold, assigned, transferred and set over, and by these presents do sell, assign, transfer and set over, unto the said General Electric Company the said invention, and the Letters Patent aforesaid; and any reissue or reissues, or extension or extensions of said Letters Patent, the same to be held and enjoyed by the said General Electric Company, its successors, assigns or other legal representatives, for its own use and behoof, and for the use and behoof of its successors, assigns or other legal representatives, to the end of the term or terms for which said Letters Patent are or may be granted, reissued or extended, as fully and entirely as the same would have been held and enjoyed by me had this assignment and sale not been made; together with all claims for damages by reason of past infringement of said Letters Patent; with the right to sue for and collect the same for its own use and behoof, and for the use and behoof of its successors, assigns or other legal representatives.

And I hereby covenant that I have full right to convey the entire interest herein assigned, and that I have not executed, and will not execute any agreement in conflict herewith.

And I further hereby covenant and agree that I will, at
542 any time, upon request, execute and deliver any and all papers that may be necessary or desirable to perfect the title to said invention or Letters Patent in said General Electric Company, its successors, assigns or other legal representatives, and that if said General Electric Company, its successors, assigns or other legal representatives desire to secure a reissue or extension of such Letters Patent or that a disclaimer relating thereto should be filed, that I will upon request, sign all papers, make all rightful oaths, and do all lawful acts requisite for the application for such reissue or extension and the procuring thereof, and for the filing of such disclaimer, without further compensation, but at the expense of said assignee, its successors, assigns or other legal representatives.

And I do further covenant and agree that I will, at any time, upon request, communicate to said General Electric Company, its successors, assigns or other legal representatives, any facts relating to said invention and Letters Patent, or the history thereof, known to me, and testify as to the same in any interference or other litigation when requested so to do.

In Testimony Whereof, I have hereunto set my hand and affixed my seal at —— this 22nd day of December, 1897.

REUBEN B. BENJAMIN. [SEAL.]

In the presence of
R. B. SWIFT.
WM. H. FERGUSON.

343 STATE OF ILLINOIS,
County of Cook, ss:

On this 22nd day of December, in the year of our Lord one thousand and eight hundred and ninety-seven, before me personally came Reuben B. Benjamin, to me personally known, and known to me to be the individual described in and who executed the foregoing assignment, and who acknowledged to me that he executed the same and for the purpose therein set forth.

[Notarial Seal John V. A. Hasbrook, Cook County, Illinois.]

JOHN V. A. HASBROOK,
Notary Public, Cook Co., Ill.

Recorded Dec. 29, 1897.

344 U. S. District Court, District of New Jersey.

In Equity.

WEBER ELECTRIC CO., Complainant,

vs.

E. H. FREEMAN ELECTRIC CO., Defendant.

DEFENDANT'S EXHIBIT GENERAL ELECTRIC CO. LETTER TO BENJAMIN.

[Seal of I. V. Curran, Notary Public.]

[General Electric Co.'s Letterhead.]

Monadnock Bldg.,
Chicago, Ill., March 20th, 1898.

Mr. R. B. Benjamin,
C/o West Side Elevated Ry. Co.,
Chicago, Ill.

DEAR SIR:

When you were buying porcelain parts from the Imperial Porcelain Works for your sockets did you have very much trouble with them in regard to uniformity of thread in the porcelain? We recently purchased a lot of these porcelains from the Imperial Works and find that in about 80% of them the lamps will not screw

into the thread. Did you have any drawing or guage which you gave to the Imperial Co., for which you could hold them responsible for defective porcelains. If so, is this guage still in the possession of the Imperial People?

I will appreciate it very much if you will give me any information you can in regard to this.

Yours very truly,

F. N. BAYNE.

C—F. N. B.

545 U. S. District Court, District of New Jersey.

In Equity.

WEBER ELECTRIC CO., Complainant,

vs.

E. H. FREEMAN ELECTRIC CO., Defendant.

DEFENDANT'S EXHIBIT BENJAMIN SWIFT AGREEMENT.

[Seal of I. V. Curran, Notary Public.]

Whereas Reuben B. Benjamin, of Chicago, Illinois, party of the first part, is the inventor of an electric lamp socket described in an application for United States letters patent, filed March 16, 1896, Serial Number 583,316, and is desirous of manufacturing and putting upon the market electric lamp sockets as shown in the blue prints attached hereto and any improvements thereon and made a part of this contract and marked "Exhibit A" and "Exhibit B."

And whereas Rodney B. Swift, of Chicago, Illinois, party of the second part, is desirous of furnishing money for the manufacture of said sockets and the placing of the same upon the market,

Now, therefore, in consideration of the premises, it is agreed between the parties hereto as follows:

546 1. Party of the first part hereby agrees to furnish the dies and tools necessary for the making of the porcelain part of the socket shown in Exhibit A, and party of the second part hereby agrees to furnish the necessary money for the purchase of dies and tools for making the metalled parts of said socket shown in Exhibit A, and to also furnish the necessary money for the purchase of dies and tools for making the socket shown in Exhibit B.

2. Party of the first part hereby agrees to repay to party of the second part the money thus expended in the purchase of dies and tools, said money to be paid within the term of one year and it is agreed that party of the second part shall retain the profits which would otherwise be turned over to party of the first part and apply the same in the payment of said sum of money advanced for dies and tools, said profits to be so applied until said sum is wholly paid,

and if at the end of a year the profits have not been sufficient to complete said payment party of the first part hereby agrees to make up the deficit, and party of the first part, to secure the payment of said money to party of the second part, hereby agrees to execute a mortgage conveying to said party of the second part the application for letters patent above referred to and the letters patent that may be granted thereon conditional upon the nonpayment of said money when due, said conveyance to become null and of no effect upon the payment of said money.

3. Party of the second party hereby agrees to advance and invest all money necessary for the manufacture of the said sockets and the filling of all orders therefore, said party of the second part to receive all moneys realized by the sale of said sockets and
547 account to party of the first part as hereinafter provided.

4. It is mutually agreed that said party of the second part shall receive as his share of the profits of said business the sum of two cents ($0.02) for each of the sockets shown in Exhibit A which shall be sold and for which payment has been received and any improvement thereon and the sum of *the* one cent ($0.01) for each of the sockets shown in Exhibit B which shall be sold and for which payment has been received, and any improvements thereon.

5. Said party of the second part after the dies and tools have been paid for from the profits of party of first part as provided in article 2 hereby agrees to pay to said party of the first part all money received from the sale of said sockets after deducting therefrom the sum paid for the manufacture of said sockets, and the sum all owed said party of the second part as his share of the profits as above provided, and it is agreed that no sums shall be deducted from the receipts of sales except the cost of manufacture and the profit of said party of the second part without the consent of party of the first part, and money to be expended for advertising, soliciting orders, and other expenses not connected with the direct manufacture of the sockets shall be apportioned between said parties if at all, by mutual consent.

6. It is agreed by parties hereto that the selling prices of the said sockets shall be determined by mutual agreement.

7. Party of the first part hereby agrees to devote his best energies to promote said business, and to give to said business such
548 time as may be necessary to solicit and fill orders, superintend manufacture, and in fact, all business except the receipt of money and payment of bills, but it is agreed that said party of the first party shall not be required to resign his present position or devote his entire time and attention to said business until his share of the profits warrants his doing so; and said party of the first part hereby agrees to pay all expenses connected with the soliciting of orders except where otherwise mutually agreed, and said party of second part shall pay no money for the soliciting of orders except by consent of party of the first part.

8. It is agreed that this contract shall extend throughout the term of the letters patent to be granted upon said application above referred to, and any improvements thereon.

In witness whereof we have executed this instrument in duplicate this 10th day of September 1896.

R. B. BENJAMIN.
R. B. SWIFT.

Witnesses:
WILLIAM S. BELL.
WM. H. FERGUSON.

549 U. S. District Court, District of New Jersey.

In Equity.

WEBER ELECTRIC CO., Complainant,

vs.

E. H. FREEMAN ELECTRIC CO., Defendant.

DEFENDANT'S EXHIBIT METROPOLITAN ELEVATED RECORD.

[Seal of I. V. Curran, Notary Public.]

Chicago, Oct. 8th, 1897.

Order No. 279.

To All Concerned:

Schedule No. 17, with Working Program for same, will take effect on all lines at 12:01 A. M. Monday, Oct. 11th, 1897.

Garfield and Douglas Park branch trains will make stops at all Stations.

Logan Square and Humboldt Park Branch trains will not stop at Center Ave. or Latlin St. Stations (Sundays and holidays excepted) between the hours of 7 A. M. and 7 P. M.

Trainmen on Westbound trains, on these Branches, arriving at Halsted St. Station from 6:59 A. M. to 6:59 P. M., and on Eastbound trains arriving at Marshfield Ave. Station from 6:59
550 A. M. to 6:59 P. M. will notify passengers to change cars for Latlin St. and Center Ave. Stations.

Humboldt Park Branch trains will make no stops between Marshfield Ave. and Robey St. Stations (Sundays and holidays excepted) as follows:

Westbound trains arriving at Marshfield Ave. from 6:30 A. M. to 8:30 A. M.

Eastbound trains arriving at Robey St. from 4:45 P. M. to 6:45 P. M.

Trainmen will make the above announcements on all trains arriving at the above Stations between the hours named.

Commencing with the 12 o'clock, midnight, train from Logan Square, up to and including the 4:50 A. M. train from that point, Logan Square trains will run around the Loop and return to Logan Square. After that time the destination of Logan Square trains, after leaving the Loop, will be Lawndale.

Commencing with the 12:15 a. m. train from Lawndale, up to and including the 4:40 a. m. train from that point, Humboldt Park trains will run around the Loop and return to Lawndale. After that time the destination of Humboldt Park trains will be Logan Square, excepting the 11:15 p. m. train from Lawndale. This train will return to Lawndale.

Commencing with the 12:07 A. M. train from 48th St., up to and including the 5:02 A. M. train from that point, Garfield Park trains will run around the Loop and return to 48th St. After that time the destination of Garfield Park trains, after leaving the Loop, will be Western Ave.

Commencing with the 12:29 A. M. train from Western Ave., up to and including the 5:04 A. M. train from that point, Douglas
551 Park trains will run around the Loop and return to Western Ave. After that time the destination of Douglas Park trains, after leaving the Loop, will be 48th St.

Motormen will change signals on Motor cars, to show the destination of their trains, while stopping at the Franklin St. Station, going East.

The running time allowed, to make the circuit of the Loop, is 20 minutes.

Trainmen will announce the destination of their train at all Stations on the Loop, and when going West.

Trainmen, while on the Union Loop, will be subject to the Rules and Regulations of that Company, and to the orders of S. S. Neff, Superintendent Union Loop.

The route of the Metropolitan trains around the Loop will be as follows:

After leaving the Franklin St. Station, on East-bound trip, trains will cross at 5th Ave. to inner Loop track, then run East to Wabash Ave., North to Lake St. West to 5th Ave., South to Van Buren St. thence West to Franklin St. Station.

The stopping place for Metropolitan trains will be at the further end of Station platform, i. e., going East, East end; going North, North end, etc.

Motormen on 2 car trains will stop with the end of the Motorcar about thirty feet from end of Station platform; on 3 car trains with end of Motorcar at end of platform, and on 4 car trains with end of Motor car about thirty feet past end of platform. (These instructions to apply until Stop Boards are placed.)

Motormen, when approaching the junction of the Loop
552 tracks to enter upon or leave same, must have their trains under positive control, giving their closest attention to switches and semaphores protecting same, and will not exceed six miles per hour passing through cross-overs.

Motormen will note the attached sketch of the location of the signals at the junction of the Metropolitan Railroad with the Loop at the corner of Van Buren St. and 5th Ave.

Signal A is the most important signal and governs the entrance to the Loop.

Signal B governs the exit from the Loop, being the upper arm on the signal post at that point.

Signal C governs the entrance on the Loop, but will ordinarily be found at safety. It operates independently of Signal A and may be either at danger or safety when signal A is the reverse.

These are the most important signals and should be especially observed.

A. S. JONES,
Supt. Transportation.

Approved:
W. E. BAKER,
Supt. for Receiver.

553 United States District Court for the District of New Jersey.

(In Equity. Patent No. 743,206.)

WEBER ELECTRIC COMPANY, Complainant,

vs.

E. H. FREEMAN ELECTRIC COMPANY, Defendant.

DEFENDANT'S EXHIBIT "FREEMAN ORIGINAL LICENSE."

[Seal of Walter P. Long, Notary Public, Kings County. Certificate filed in N. Y. County, No. 29.]

March 23rd, 1915.

This Agreement made and entered into this eleventh day of February in the year one thousand nine hundred and nine, between Edgar H. Freeman, of the City of Trenton, in the County of Mercer and State of New Jersey, party of the first part and E. H. Freeman Electric Company, a corporation duly organized and existing under and by virtue of the laws of New Jersey, with its principal office in the City of Trenton, County of Mercer and State of New Jersey, party of the second part, Witnesseth:

Whereas, the said Edgar H. Freeman has invented a brass shell socket, adapted for use either with or without a key, for
554 which inventions applications for letters patent have been made by the said party of the first part, which applications are now pending before the United States Patent Office.

Whereas the said party of the first part has agreed that the party of the second part shall have the exclusive license to manufacture and sell the articles embodying the said inventions thereinbefore mentioned.

Now Therefore, for and in consideration of the sum of One Dollar lawful money of the United States, paid by the party of the second part to the party of the first part, the receipt whereof is hereby acknowledged, and of the covenants and agreements hereinafter mentioned, the said parties do hereby agree each with the other as follows:

First. The party of the first part hereby covenants and agrees to give and does hereby give unto the party of the second part the exclusive right to make and sell the articles embodying the invention hereinbefore described.

Second. In consideration of the foregoing the party of the second part hereby agrees to pay to the party of the first part, his executors, administrators or assigns, a royalty or license fee at the rate of one-half cent for each and every brass shell socket sold by them containing the inventions of the said party of the first part.

Third. The party of the second part hereby agrees to keep an accurate account of all brass shell sockets sold by it or its agent, which account shall be open at all times to the inspection of the party of the first part or his representatives.

555 Fourth. The party of the second part hereby agrees to render to the party of the first part on the first days of January, April, July and October in each and every year, a statement setting forth the number of brass shell sockets embodying the said inventions sold by it during the three months preceding the first days of January, April, July and October.

Fifth. The said party of the second part hereby agrees to pay to the party of the first part within thirty days after the rendering of the statement aforesaid, the royalties on all brass shell sockets mentioned in said statement except in case of a suit pending against the party of the second part, on articles referred to in this agreement for infringement of letters patent.

Sixth. It is further agreed that all articles embodying the said invention made or sold by the party of the second part, shall be known commercially and sold under the name of "The Freeman Security Socket."

Seventh. It is further agreed that the minimum royalty to be paid by the party of the second part for any calender year is to be two hundred dollars.

Eighth. It is Further Agreed that in the event of any action or actions being brought against the party of the second part, or any person, firm or corporation, using or selling said brass shell sockets, by any person, firm or corporation, for infringement of letters patent, by reason of the manufacture, sale or use of said articles, herein mentioned said party of the first part hereby agrees to assist the said

party of the second part in defending said action or actions
556 and any expense incurring in defending said action or actions, or any judgment or judgments that may be recovered therein, shall be divided and borne equally between the party of the first part and the party of the second part.

Ninth. This agreement shall cover cojointly any improvement made on said brass shell sockets and it is hereby understood that any other inventions made by the party of the first part during the life of this contract or any renewal of same shall be the property of the party of the second part.

And it is Further Agreed that this agreement shall be in force until January 1st, 1914, and that the said party of the second part shall at its option have the privilege of renewing this contract for a further term to expire concurrently with the letters patent, which shall hereafter be granted to the party of the first part for said invention.

In Witness Whereof the party of the first part has hereunto set his hand and seal, and the party of the second part has caused these presents to be signed by its vice president and its corporate seal to be affixed the day and year as above mentioned.

EDGAR H. FREEMAN. [SEAL.]
E. H. FREEMAN ELECTRIC CO.,
By LAMBERT ALPAUGH,
Vice President.
[SEAL.]

Signed, sealed and delivered in the presence of

JOHN T. VAN CLEEF,
Master in Chancery of N. J.

Attest:

GEO. E. MAGUIRE,
Secretary.

557 United States District Court for the District of New Jersey.

(In Equity. Patent No. 743,206.)

WEBER ELECTRIC COMPANY, Complainant,

vs.

E. H. FREEMAN ELECTRIC COMPANY, Defendant.

"DEFENDANT'S EXHIBIT. FREEMAN EXTENSION OF LICENSE."

[Seal of Walter P. Long, Notary Public, Kings County. Certificate Filed in N. Y. County, No. 29.]

March 23rd, 1915.

This Agreement made and entered into this first day of January in the year one thousand nine hundred and fourteen between Edgar H. Freeman of the City of Trenton in the County of Mercer and State of New Jersey, party of the first part, and the E. H. Freeman Electric Co., a Corporation duly organized and existing under and by virtue of the laws of New Jersey, with its principal office in the City of Trenton, County of Mercer, and State of New Jersey, party of the second part:

Witnesseth: An Agreement was entered into by and between the above parties on the eleventh day of February in the year one
558 thousand nine hundred and nine, and said Agreement contains the following:

"And it is further agreed that this Agreement shall be in force until January 1st, 1914, and that the said party of the second part shall at its option have the privilege of renewing this contract for a further term to expire concurrently with the letters patent which shall be granted to the party of the first part for said invention."

Now therefore, in accordance with this Agreement, the said parties do hereby agree to renew the said contract as specified therein, until the expiration of the letters patent as granted, and it is further agreed that the Agreement entered into by the said parties on the first day of July in the year one thousand nine hundred and eleven supplementing the first mentioned Agreement, shall also be extended until the expiration of the letters patent as above mentioned.

In witness whereof the party of the first part has set his hand and seal, and the party of the second part has caused these presents to be signed by its Vice President and its corporate seal to be affixed the day and year as above mentioned.

EDGAR H. FREEMAN.
E. H. FREEMAN ELECTRIC CO.,
S. W. MARGERUM, *V. Pres.*

Signed, Sealed and Delivered In the presence of
ADELAIDE HENRY.

Attest.
GEO. E. MAGUIRE,
Sec'y.

559 United States District Court for the District of New Jersey.

(In Equity. Patent No. 743,206.)

WEBER ELECTRIC COMPANY, Complainant,

vs.

E. H. FREEMAN ELECTRIC COMPANY, Defendant.

UNITED STATES OF AMERICA,
Southern District of New York, ss:

This is to certify that on March 23rd, 1915, at 11:00 o'clock in the forenoon appeared before me Frank C. Curtis, Esq., for Complainant and David P. Wolhaupter, Esq., for Defendant and the witnesses Richard F. Purcell, N. A. Cornell, Charles A. Kabat and Edgar H. Freeman, at the offices of the E. H. Freeman Electric Company, Tribune Building, New York City.

The witnesses were by me duly sworn to testify to the truth, the whole truth, and nothing but the truth, and the said witnesses having read over their respective depositions severally subscribed and sworn to the same in my presence, except the witness Edgar H. Freeman, which signature was waived by consent of counsel.

560 I further certify that the exhibits introduced in the taking of the foregoing depositions were retained by counsel for the respective parties.

I do further certify that I am neither of counsel in the cause pending nor in any way interested in the event thereof.

In testimony whereof I have hereunto set my hand.

(Signed) WALTER P. LONG,
[SEAL.] *Notary Public, Kings County.*

Certificate filed in N. Y. County, No. 29.

Dated New York, March 31st, 1915.

561 & 562

The following three pages are the Catalogue Exhibits marked respectively,

"Defendant's Exhibit, General Electric Co. 1904 Catalogue," Page 346.

"Defendant's Exhibit, Manhattan Electrical Supply Co. 1905 Catalogue," Page 567.

"Defendant's Exhibit, General Electric Co., 1906 Catalogue," Page 49.

SOCKETS AND RECEPTACLES

Sockets for 500 Volt Circuits

These 500 Volt Sockets are substantially made, with no parts likely to work loose and get out of order. The body into which the lamp base is screwed consists of one solid piece of porcelain. The shell is made in two parts; Cat. Nos. 50701, 25709, 50702 and 25710 being screwed together, while Cat. Nos. 32440 to 32443 inclusive are held together by a bayonet catch. These sockets are weatherproof and are particularly adapted for use in mines, tunnels, subways, power stations, electric cars, etc., where a socket of extra strength and high insulation is required. Sockets may be conveniently used on standard iron conduit or iron pipe. The base of the shell provides ample room for the admission of rubber covered wire.

A line of fixtures for use with these sockets is shown on page 358. Shade holder, Cat. No. 71737, may be used with these sockets.

Cat. No. 50702

Cat. No. 32440

Cat. No.	Description	List Price
50701	Keyless socket, with aluminum shell, for ½" pipe	$0.80
25709	Keyless socket, with aluminum shell, for ¾" pipe	.80
50702	Keyless socket, with brass shell, for ½" pipe	.80
25710	Keyless socket, with brass shell, for ¾" pipe	.80
32440	Keyless socket, with aluminum shell, for ½" pipe	.80
32441	Keyless socket, with aluminum shell, for ¾" pipe	.80
32442	Keyless socket, with brass shell, for ½" pipe	.80
32443	Keyless socket, with brass shell, for ¾" pipe	.80

STANDARD SOCKETS.

Electrolier Sockets.

Fibre Lined for 220 Volts

List No.		Std. Pkg.	Price.
19623	Key Sockets for ⅛ inch Pipe	250	$0 55
29624	" " " ¼ " "	100	61

Pendant Pull Socket.

Fibre Lined 250 Volts

Standard length of chain 8 inches. For longer chains add 10c. per foot

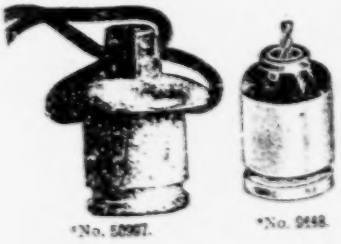
*No. 2908. *No. 53666.

List No.		Std. Pkg.	Price Each
35000	Edison Base Pendant Pull Socket, ⅛ in. cap	100	$0 60
35001	" " " " " ¼ "	50	55
35002	T.-H. " " " " ⅛ "	100	63
35003	" " " " " ¼ "	50	68
35004	West. " " " " ⅛ "	50	60
35005	" " " " " ¼ "	50	66

Weatherproof.

Sockets with wire extensions are fitted with 12 inches of stranded rubber covered wire. Longer leads special to order.

Edison Base.



*No. 50967. *No. 9448.

List No.		Std. Pkg.	Price Each
9366	Porcelain weatherproof socket.	250	$0 25
53666	Composition moulded material	250	60
50967	Porcelain weatherproof socket with extended top and lead wires	250	55
9448	Weatherproof bracket socket for ⅛ inch pipe	100	50
9481	Mfrs. No. 9436. Weatherproof bracket socket for ¼ in. pipe	100	60
9406	Soft rubber ring for weather-proof sockets. Not shipped unless ordered. Special, per 100		3 50

Twin Fixture or Show Window Socket.

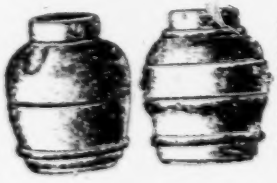
List No. 11132.

Adapted particularly for show window lighting. Same size as standard socket, and requires half the number of taps and connections. Gives the same lighting effect with one-half the number of openings and nipples. Edison base only

List No.		Price. each.
11132	Twin socket only, Edison base multiple	$0 70
11133	" " " " " series	75
11134	" " with flange, Edison base multiple	85
11135	" " " " " series	90

Flange is polished brass with 1 inch nipple

Sockets for 500 Volt Circuits.



List No.		Std. Pkg.	Price
50701	Keyless Socket, with Aluminum ⅛ in. Pipe	200	$0 70
25709	" " " " " ¼ " "	200	75
50702	" " " Brass " ⅛ " "	200	78
2577.0	" " " " " ¼ " "	200	83
32440	" " " Aluminum " ⅛ " "	200	80
32441	" " " " " ¼ " "	200	90
32442	" " " Brass " ⅛ " "	200	90
32443	" " " " " ¼ " "	200	95

KEYLESS SOCKETS FOR 500 VOLT CIRCUITS

These 500 Volt Sockets are substantially made, with no parts likely to work loose and get out of order. The body into which the lamp base is screwed consists of one solid piece of porcelain. The shell is made in two parts; Cat. Nos. 50701, 25709, 50702 and 25710 are screwed together, while Cat. Nos. 32440 to 32443 inclusive are held together by a bayonet catch. These sockets are weatherproof and are particularly adapted for use in mines, tunnels, subways, power stations, electric cars, etc., where a socket of extra strength and high insulation is required. Sockets may be conveniently used on standard iron conduit or iron pipe. The base of the shell provides ample room for the admission of rubber-covered wire.

A line of fixtures for use with these sockets is shown on page 62. Shade holder, Cat. No. 71737, may be used with these sockets.

Cat. No. 50702

Cat. No.	Description
50701	With aluminum shell, for $\frac{1}{2}$" pipe.
25709	With aluminum shell, for $\frac{1}{8}$" pipe.
50702	With brass shell, for $\frac{1}{2}$" pipe.
25710	With brass shell, for $\frac{1}{8}$" pipe.
32440	With aluminum shell, for $\frac{1}{2}$" pipe.
32441	With aluminum shell, for $\frac{3}{8}$" pipe.
32442	With brass shell, for $\frac{1}{2}$" pipe.
32443	With brass shell, for $\frac{3}{8}$" pipe.

Cat. No. 32440

E. H. FREEMAN.

ADJUSTABLE CASING FOR LAMP SOCKETS.

APPLICATION FILED JULY 15, 1908.

927,344. Patented July 6, 1909.

Fig. 1.

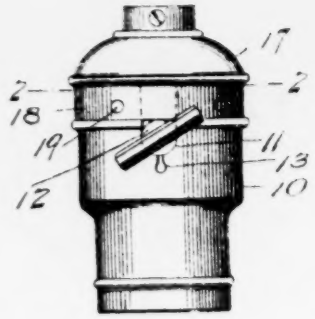
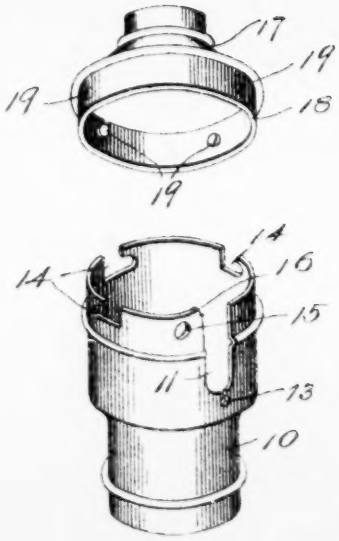


Fig. 2.

Fig. 3.



Inventor

Edgar H. Freeman

Witnesses

D. L. Mockabee

E. O. Crocker.

By D. P. Wolhaupter.

Attorney

UNITED STATES PATENT OFFICE.

EDGAR H. FREEMAN, OF TRENTON, NEW JERSEY.

ADJUSTABLE CASING FOR LAMP-SOCKETS.

No. 927,344. Specification of Letters Patent. Patented July 6, 1909.

Application filed July 15, 1908. Serial No. 443,726.

To all whom it may concern:

Be it known that I, EDGAR H. FREEMAN, a citizen of the United States, residing at Trenton, in the county of Mercer and State of New Jersey, have invented certain new and useful Improvements in Adjustable Casings for Lamp-Sockets, of which the following is a specification.

This invention relates to certain new and useful improvements in electric lamp fittings and more particularly to an improved snap casing or shell for the sockets of lamps of this character.

The invention has for its object the production of a casing or shell provided with improved means for detachably and adjustably uniting the cap with the body thereof in such manner that the slot, through which the circuit controlling key protrudes, may be properly positioned to make said key readily and conveniently accessible irrespective of the location of the socket casing with relation to its support.

A further object is to provide the body of the shell or casing with a plurality of positioning slots and a single locking hole and to provide the cap with uniform locking means adapted to engage either of said slots.

The invention will be hereinafter fully set forth and particularly pointed out in the claims.

In the accompanying drawings—Figure 1 is a side elevation illustrating my improved socket casing incasing therein an ordinary lamp socket. Fig. 2 is a transverse sectional view on line 2—2, of Fig. 1, omitting the socket. Fig. 3 is a perspective view with the cap and body separated.

Like characters of reference designate corresponding parts.

Referring to the drawings, 10 designates the body of my improved casing, the same being of any suitable contour and usually provided with the ordinary longitudinal slot 11 for the accommodation of the lamp key 12. In order to render the wall of the casing 10 freely resilient adjacent the slot 11, the metal may be slit as indicated at 13.

One edge portion of the body 10 is provided with a plurality of bayonet slots 14 and with a single locking hole 15, the latter being equidistant from transverse portions of the adjacent bayonet slots and edge of slot 11 contiguous to the locking hole 15 and constituting a tongue or lip that is preferably bent slightly inward as indicated at 16.

The cap 17 is provided with a flange 18 constructed to fit over one end of the body 10 and is provided with a plurality of inwardly extended equidistant lugs 19 corresponding in number and position to the bayonet slots 14 and hole 15, combined.

In practice the cap 17 is secured to a bracket or other support in the usual manner, and the casing 10, carrying the usual socket and plug, secured thereto. In order to attach the body 10 to the cap 17 the bent portion 16 and the longitudinally disposed portions of the bayonet slots 14 are brought opposite the lugs 19 and the said body pushed into the cap. The body is then turned slightly to the right to bring the lugs 19 into the horizontal portions of slots 14, whereupon the lug 19 that passes over the bent portion 16 will ride thereover, and snap into the locking hole 15, thus firmly locking the parts together. With this construction therefore, it will be evident that when certain of the lugs 19 are in position to enter the bayonet slots, the other lug will be positioned over the inwardly bent tongue or lip 16. Therefore the body can be pushed into the cap without interference until the lugs 19 are in line with the transverse portions of the bayonet slots, inasmuch as the said lug will slip over the tongue or lip. A part turn will carry the three lugs into said transverse portions of the bayonet slots while the fourth lug will be simultaneously moved into the opening 15. The inturned tongue or lip therefore is an important feature, and its particular location, being formed by the corner that is produced by the slot 11. The particular relation of the parts therefore is such that there has to be no careful adjustment of the cap to the body. It can be applied indiscriminately and rotated, for just as soon as three of the lugs aline with the bayonet slots, the fourth comes over the tongue and the two members slip into interlocking relation and they cannot incorrectly interlock, for the lugs that engage in the bayonet slots prevent the remaining lug from slipping into the key-receiving slot.

When it is desired to separate the body from the cap, the wall adjacent the locking hole 15 is pressed in, whereupon the body 10 may be turned to the left to disengage lugs 19 from said hole and the slots 14, the bent portion 16 serving to minimize the resistance. Should the key 12 not come into a convenient or accessible position when the cap and

E. H. FREEMAN.

ADJUSTABLE CASING FOR LAMP SOCKETS.

APPLICATION FILED AUG. 9, 1910.

Reissued May 30, 1911.

13,247.

Fig. 1.

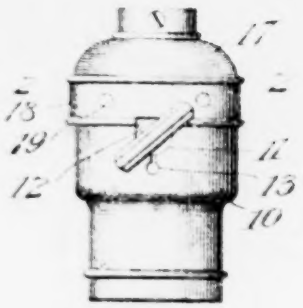
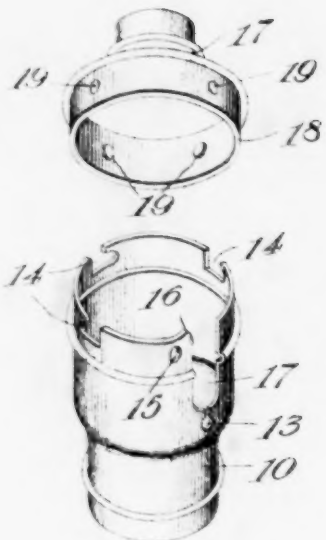


Fig. 2.

Fig. 3



WITNESSES

INVENTOR

Edgar H. Freeman

By O. B. Stoughton

Attorney

UNITED STATES PATENT OFFICE.

EDGAR H. FREEMAN, OF TRENTON, NEW JERSEY.

ADJUSTABLE CASING FOR LAMP-SOCKETS.

13,247. Specification of Reissued Letters Patent. Reissued May 30, 1911.

Original No. 927,344, dated July 6, 1909, Serial No. 443,726. Application for reissue filed August 9, 1910. Serial No. 576,430.

To all whom it may concern:

Be it known that I, EDGAR H. FREEMAN, a citizen of the United States, residing at Trenton, in the county of Mercer and State of New Jersey, have invented certain new and useful Improvements in Adjustable Casings for Lamp-Sockets, of which the following is a specification.

This invention relates to certain new and useful improvements in electric lamp fittings and more particularly to an improved snap casing or shell for the sockets of lamps of this character.

The invention has for its object the production of a casing or shell provided with improved means for detachably and adjustably uniting the cap with the body thereof in such manner that the slot, through which the circuit controlling key protrudes, may be properly positioned to make said key readily and conveniently accessible irrespective of the location of the socket casing with relation to its support.

A further object is to provide the body of the shell or casing with a plurality of positioning slots and a single locking hole and to provide the cap with uniform locking means adapted to engage either of said slots.

The invention will be hereinafter fully set forth and particularly pointed out in the claims.

In the accompanying drawings—Figure 1 is a side elevation illustrating my improved socket casing incasing therein an ordinary lamp socket. Fig. 2 is a transverse sectional view on line 2—2, of Fig. 1, omitting the socket. Fig. 3 is a perspective view with the cap and body separated.

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When it is desired to separate the body from the cap, the wall adjacent the locking hole 15 is pressed in, whereupon the body 10 may be turned to the left to disengage lugs 19 from said hole and the slots 14, the bent portion 16 serving to minimize the resistance. Should the key 12 not come into a convenient or accessible position when the

(No Model.) 3 Sheets—Sheet 1.

S. RODMAN, Jr.

INCANDESCENT LAMP SOCKET.

No. 414,922. Patented Nov. 12, 1889.

Fig. 1.

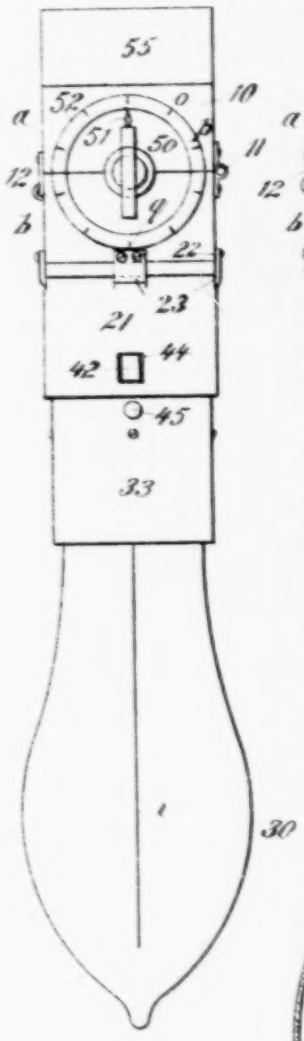


Fig. 2.

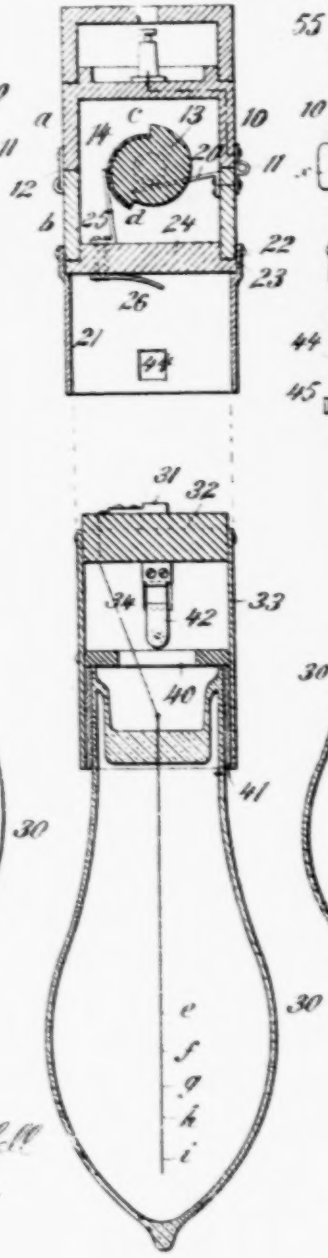
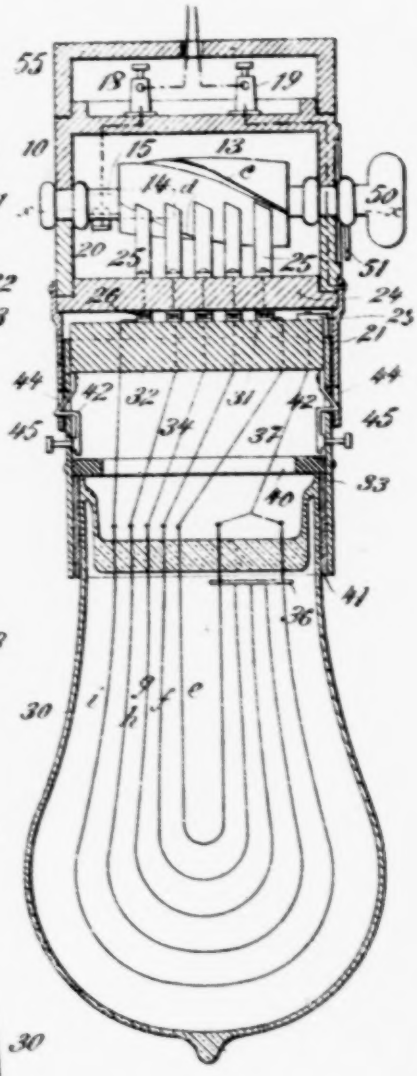


Fig. 3.



WITNESSES:

INVENTOR:

Samuel Rodman Jr.

BY Munn & Co.

ATTORNEYS.

(No Model.) 3 Sheets—Sheet 2.

S. RODMAN, Jr.

INCANDESCENT LAMP SOCKET

No. 414,922. Patented Nov. 12, 1889.

Fig. 4.

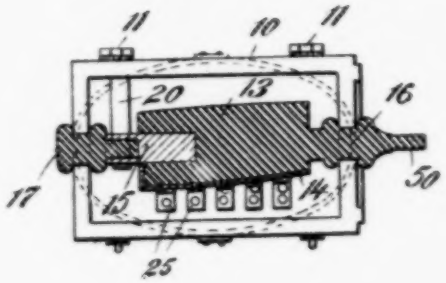


Fig. 6.

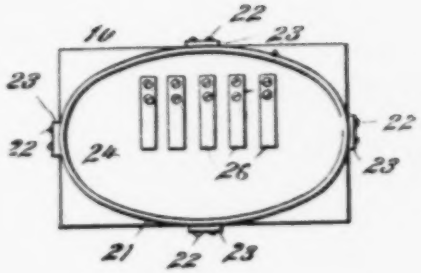


Fig. 5.

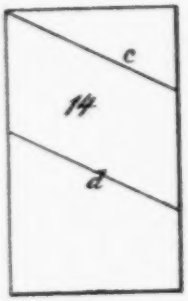


Fig. 7.

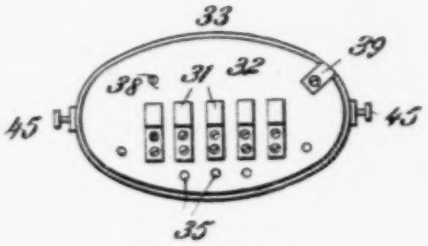


Fig. 8.

WITNESSES:

Donn Twitchell

E. M. Clark

INVENTOR:

Samuel Rodman Jr.

BY

Munn & Co.

ATTORNEYS.

(No Model.) 3 Sheets—Sheet 3.

S. RODMAN, Jr.

INCANDESCENT LAMP SOCKET.

No. 414,922. Patented Nov. 12, 1889.

Fig. 9.

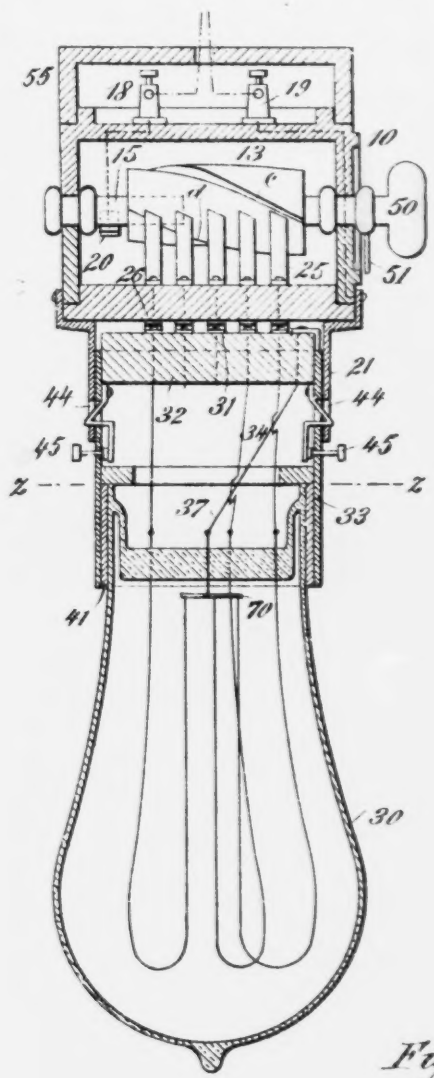


Fig. 10.

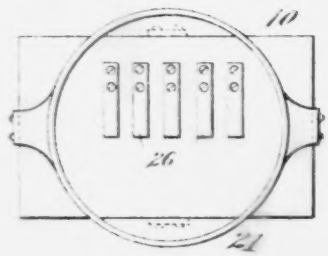


Fig. 11.

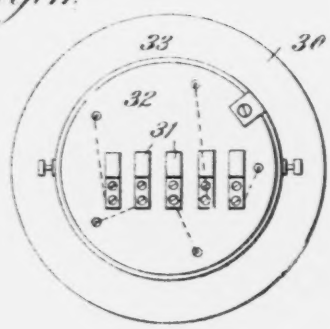


Fig. 12.

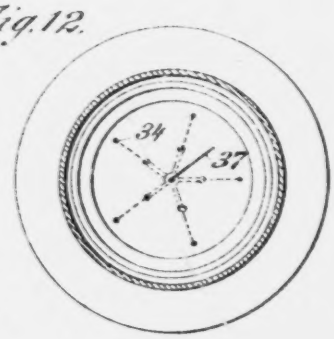


Fig. 13.

WITNESSES:

Donn Turtchell

E. Sedgwick

INVENTOR

S. Rodman Jr

BY Munn & Co

ATTORNEY

UNITED STATES PATENT OFFICE.

SAMUEL RODMAN, JR., OF THE UNITED STATES ARMY

INCANDESCENT-LAMP SOCKET.

SPECIFICATION forming part of Letters Patent No. 414,922, dated November 12, 1889.

Application filed February 13, 1889. Serial No. 300,483. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL RODMAN, JR., a lieutenant in the United States Army, residing at New Bedford, in the county of Bristol and State of Massachusetts, but at present stationed at Newport, in the county of Newport and State of Rhode Island, have invented a new and Improved Electric Incandescent Lamp, of which the following is a full, clear, and exact description.

The main object of my invention is to produce an electric incandescent lamp wherein the power or intensity of the light may be varied at will; and to the end named the invention consists of certain novel constructions, arrangements, and combinations of elements, to be hereinafter fully described, and specifically pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a side view of my improved electric incandescent lamp, the parts being shown as they appear when all of the filaments are out of circuit. Fig. 2 is a central cross-sectional view of the same, the view being taken on the minor axis of the lamp-body, the parts being shown as they appear when all of the filaments are in circuit. Fig. 3 is a sectional view taken on the major axis of the lamp, the position of the parts being the same as in Fig. 2. Fig. 4 is a sectional plan view on line *x x* of Fig. 3. Fig. 5 is a diagram showing the development of the key-cylinder surface upon a plane surface. Fig. 6 is an inverted plan view of the fixture-socket. Fig. 7 is a plan view of the lamp-socket. Fig. 8 is a view of the left-hand end of the key-cylinder. Fig. 9 is a central sectional elevation of a modified form of lamp, this construction, however, being the one which I prefer to employ. Fig. 10 is an inverted plan view of the modified fixture-socket. Fig. 11 is a plan view of the lamp-socket. Fig. 12 is a cross-sectional view on line *z z* of Fig. 9, and Fig. 13 is a diagram illustrating the arrangement of the carbons.

In the drawings, 10 represents a key-box, formed from sections *a* and *b*, that are united by a hinge-joint 11 and held together by hooks or other fastening devices 12, the box being made of any proper non-conducting material. Within the box 10 there is mounted a cylinder 13, said cylinder being formed with spiral shoulders *c* and *d* and carrying a metallic plate 14, which extends from the shoulder *c* to the defining edge of the shoulder *d*, this plate being placed in electric communication with a metallic plug 15, that is fitted into the left-hand end of the cylinder 13. The cylinder proper and its trunnions are made of non-conducting material, the right-hand trunnion 16 being, if desired, integral with the cylinder-body, while the left-hand trunnion 17 is provided with a projection which fits in a recess formed in the end of the plug 15.

To the top of the box 10 there are secured two binding-posts 18 and 19, the post 18 being in electric communication with a brush or tongue 20, which bears against the extending portion of the plug 15, and the post 19 is in electric communication with a socket 21, that is secured to the box 10, said socket being of a proper form and size to receive the lamp-socket. The socket 21 could be secured to the box in any desired manner, but I prefer to establish the connection by means of screws 22, which pass through lugs or ears 23, that extend upward from the socket-body.

To the upper side of the bottom 24 of the box 10, I connect a number of spring-tongues 25, which bear against the peripheral face of the cylinder 13, there being as many of these tongues as there are filaments in the lamp, and to the under side of the bottom 24, I secure a like number of spring-tongues 26.

In the specific construction illustrated I arrange five filaments *e*, *f*, *g*, *h*, and *i* within the globe 30, one end of each of these filaments being electrically connected with contact-plates 31, that are secured to the upper face of a block 32, said block being held within the upper end of a lamp-socket 33, the wires 34, by which the connection just referred to is established, passing from the globe through apertures 35, that are formed in the block 32. The other ends of all of the filaments are connected by a wire 36, which is supported by two wires that pass through the crown of the globe, said two wires in turn being connected to a wire 37, that is led up through an aperture 38, formed in the block 32, and thence into a contact-plate 39, that is made integral with or placed

with spiral shoulders, a contact-plate mounted between said shoulders, spring-tongues which bear against the cylinder, and connections between the tongues and the light-producing agents, substantially as described.

4. In an electric incandescent lamp, the combination, with a series of filaments, of plates to which one end of each of the filaments is connected, spring-tongues carried by the fixture-socket and arranged to bear upon the plates, other spring-tongues connected to the first-named tongues, a cylinder-key against which the second set of tongues bear, and a spiral contact-plate carried by the key-body, substantially as described.

SAMUEL RODMAN, JR.

Witnesses:
FRANK G. HARRIS,
LEANDER K. CARR.

(No Model.)

E. R. KNOWLES.

INCANDESCENT ELECTRIC LAMP.

No. 516,819. Patented Mar. 20, 1894.

FIG. 1.

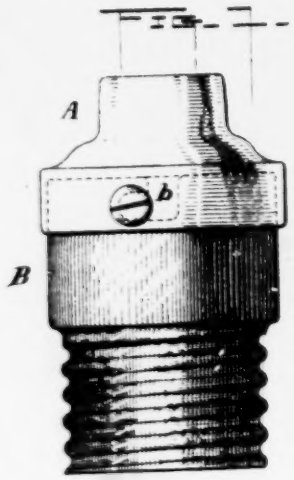


FIG. 2.

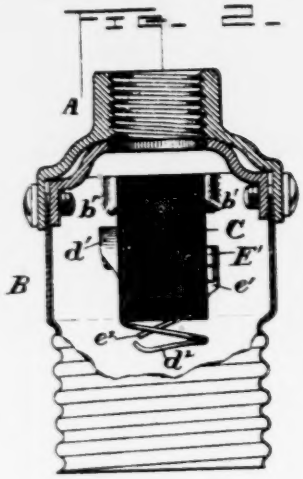


FIG. 3.

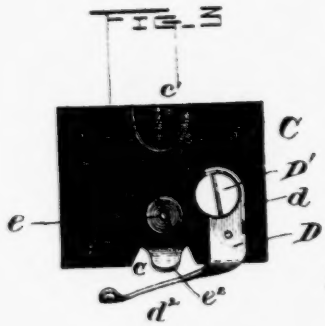


FIG. 4.

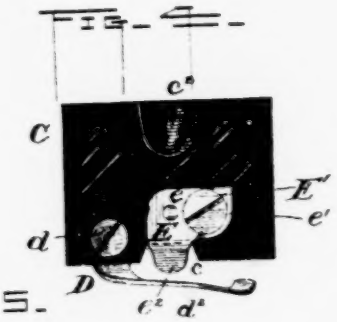
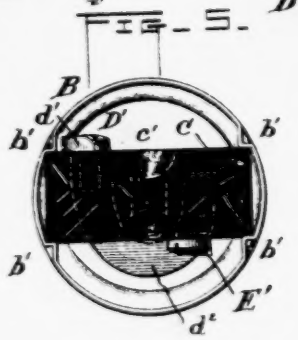


FIG. 5.



Witnesses
L. A. Connery Jr.
Paul L. Clark

Inventor
Edward R. Knowles
By Jos. D. Connery
Attorney

UNITED STATES PATENT OFFICE.

EDWARD R. KNOWLES, OF MIDDLETOWN, CONNECTICUT, ASSIGNOR TO THE SCHUYLER ELECTRIC COMPANY, OF CONNECTICUT.

INCANDESCENT ELECTRIC LAMP.

SPECIFICATION forming part of Letters Patent No. 516,819, dated March 20, 1894.

Application filed December 9, 1892. Serial No. 454,662. (No model.)

To all whom it may concern:

Be it known that I, EDWARD R. KNOWLES, a citizen of the United States, residing at Middletown, in the county of Middlesex and State of Connecticut, have invented certain new and useful Improvements in Keyless Sockets for Incandescent Electric Lamps; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to electric lighting, and it consists in certain improvements hereinafter described, in what are known as "keyless sockets" for incandescent electric lamps.

In the drawings, Figure 1 is an elevation, on an enlarged scale, of an incandescent lamp socket. Fig. 2 is a similar view partly in section. Figs. 3 and 4 are front and rear views of the insulating block carrying the spring contact arms and binding screws; and Fig. 5 is a plan view of the socket with the base removed.

The socket may be of any suitable construction. I have shown an ordinary base A, and a screw-threaded shell B united thereto by bayonet joints *b*. At diametrically opposite points in the upper edge of the shell are formed pairs of indentations *b'*, to constitute internal guides, between which is fitted a removable block C, of insulating material, preferably rectangular, as shown. Secured to one side of this block by a screw *d*, is a metallic plate D, having preferably a flange *d'* across its upper end and along part of one side. A binding screw D' is tapped into this end of the plate, its head being adjacent to, or in contact with, the flange *d'*. The other end of the plate has an arm d^2 bent under the block C and preferably curved into a semi-circle. To the opposite side of the block is secured by a screw *e* a plate E, having at one end a flange *e'*, and a binding screw E'. The other end of the plate has an arm e^2 bent across under the middle of the block C, which may be notched at *c* to give it free play. The upper edges of the block are notched at *c'*, c^2 to receive the line wires, the ends of which are clamped by the binding screws D', E'.

When a lamp having a threaded neck is screwed into the socket, the center contact on the lamp comes against the arm e^2, and the annular contact against the arm d^2. Since the arms are resilient, they bear with a yielding pressure upon the lamp contacts, and take up all play between the screw-threads in the shell and those on the neck of the lamp-bulb. In such a socket as this, the circuit is closed through the lamp by screwing it into the socket, since the arms d^2, e^2 remain constantly in connection with their respective line wires.

If desired, the plates D E may be let in flush with the surface of the block. This makes a stronger and neater job.

Having thus described my invention, what I claim is—

The combination with a screw threaded socket B provided on opposite sides with the parallel indentations *b'*, of an insulating block C adapted to slide in between said indentations, and two contact plates D, E, secured to opposite sides of said block, each having a spring arm extending across the inner edge of the block, the arm d^2 being semi-circular, and the arm e^2 lying diametrically across the same, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD R. KNOWLES.

Witnesses:
MAX LOEWENTHAL,
LEWIS T. ROBINSON.

(No Model.) 2 Sheets—Sheet 1

R. B. BENJAMIN.

INCANDESCENT LAMP SOCKET.

No. 575,322. Patented Jan. 19, 1897

Fig. 1

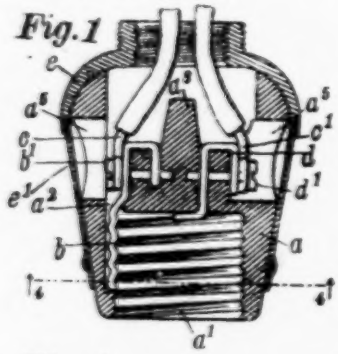


Fig. 2

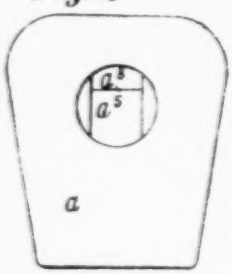


Fig. 3

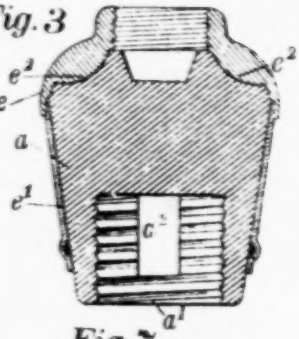


Fig. 4

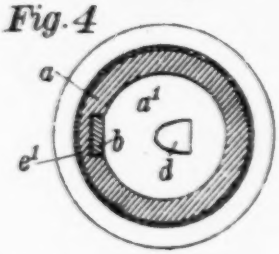


Fig. 5

Fig. 6

Fig. 7

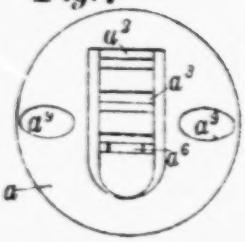


Fig. 8

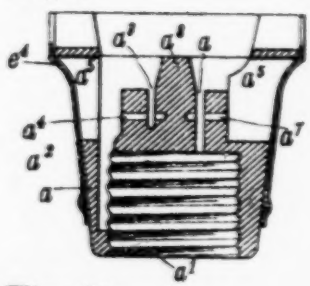


Fig. 9

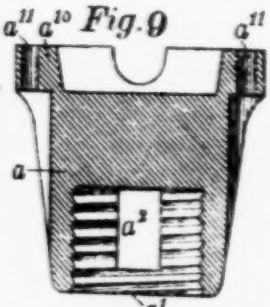


Fig. 12

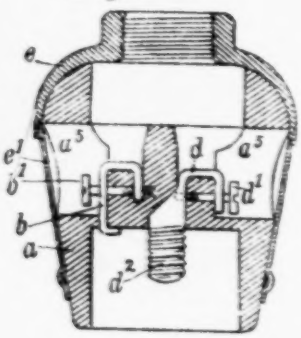


Fig. 10

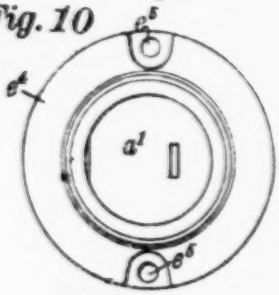
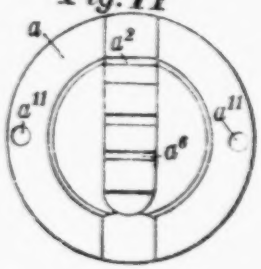


Fig. 11



WITNESSES:

William A. Kenyon.

Blake B. Bell

INVENTOR:

Reuben B. Benjamin

BY

W. Clyde Jones

ATTORNEY

(No Model.) 2 Sheets—Sheet 2.

R. B. BENJAMIN.

INCANDESCENT LAMP SOCKET.

No. 575,322. Patented Jan. 19, 1897.

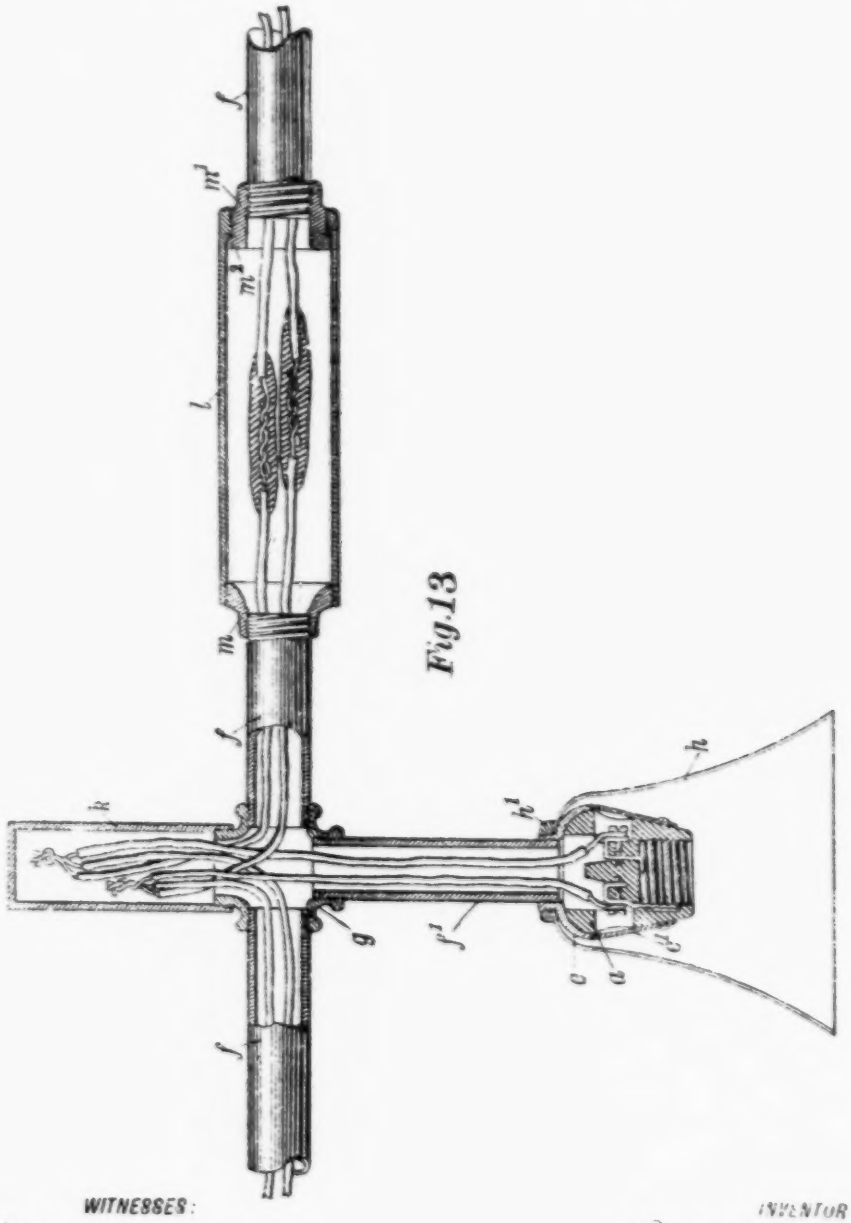


Fig. 13

WITNESSES:

A. D. Kemper

Chas. B. Bell

INVENTOR

Reuben B. Benjamin

BY

W. Clyde Jones

ATTORNEY.

UNITED STATES PATENT OFFICE.

REUBEN B. BENJAMIN, OF CHICAGO, ILLINOIS.

INCANDESCENT-LAMP SOCKET.

SPECIFICATION forming part of Letters Patent No. 575,322, dated January 19, 1897.

Application filed March 16, 1896. Serial No. 583,216. (No model.)

To all whom it may concern:

Be it known that I, REUBEN B. BENJAMIN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Incandescent Lamp Sockets, (Case No. 1,) of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to incandescent-lamp sockets, and its object is to provide an improved form of socket which shall afford perfect insulation, while being cheap of construction.

A further object of my invention is to produce a thoroughly waterproof socket.

In accordance with my invention I provide a base of porcelain, provided with a recess in the end for the reception of the lamp-base, the walls of the recess being threaded for engagement with the threads upon the lamp-bases of the Edison type. A channel is provided upon one side of the recess, within which rests a spring plate or contact, forming one of the socket-terminals. The second terminal rests in the bottom of the recess and engages the end terminal upon the lamp-base. The contact-terminals are both in the form of plates adapted to pass through openings provided in the porcelain base and carry upon their upper ends binding-screws which rest in lateral recesses accessible from the sides of the lamp-base. The binding-screws also serve in the preferred construction to maintain the terminal plates in position. A wall or partition is provided between the two binding-posts, so that the bare conductors secured thereto are prevented from coming into contact. When it is desired to employ a lamp having a base of the Thomson-Houston type, the central terminal is made in the form of a threaded post, while the opposite terminal is arranged to engage the ring upon the lamp-base. A cover or casing is provided for the socket, which, when removed, permits access to the binding-screws.

My invention contemplates means for securing the socket to the conduit to produce a waterproof conduit and socket, and, further, an improved form of conduit provided with removable portions for permitting access to the joints or connections of the conductors within the conduit.

I have illustrated my invention in the accompanying drawings, in which—

Figure 1 is a sectional view of the socket of my invention. Fig. 2 is a view of the porcelain base. Fig. 3 is a sectional view of the base and casing or shell. Fig. 4 is a sectional view on the line 4 4, Fig. 1. Figs. 5 and 6 are detached views of the contact-terminals. Fig. 7 is a top view of the porcelain base. Fig. 8 is a sectional view of a wall-socket embodying my invention. Fig. 9 is a sectional view thereof on a plane at right angles to that of Fig. 8. Fig. 10 is a front view of the wall-socket. Fig. 11 is a rear view thereof. Fig. 12 is a sectional view of a socket provided with terminals adapted to receive a Thomson-Houston lamp-base. Fig. 13 is a sectional view of an iron conduit, showing the manner of securing the socket of my invention thereto to produce a water-tight system and illustrating the removable conduit-sections.

The porcelain base *a* is provided in the end with a recess *a'*, carrying threads formed in the porcelain to receive the threads upon the lamp-base. Upon one side of the recess a channel *a''* is provided, within which rests a spring-plate *b*, which constitutes one terminal of the socket and is adapted when the lamp is screwed into the socket to press against the shell thereon. The plate *b* is preferably made sinuous to conform to the threads upon the base, thus insuring good electrical contact.

The plate *b* extends through an opening in the base *a*, and the end of the plate is bent, and extends into a recess *a''*. A binding-screw *b'* passes through the body of the contact-plate and engages a tapped hole in the end portion of the plate, which end portion lies parallel to the body. The screw *b'* passes through a hole *a'''* in the base, and when screwed into position securely maintains the contact-plate in position, at the same time serving as a binding-screw, the electrical conductor being adapted to be clamped between the head of the binding-screw and the face of the contact-plate *b*. A lateral recess *a''''* is provided in the side of base *a*, within which

this purpose I provide at intervals sleeves *l*, which may be removed to permit access to the interior of the conduit. Upon one of the pipes *f* is provided a bushing *m*, having exterior threads with which threads upon the interior of the sleeve *l* may engage. Upon the end of the adjoining pipe *f* a bushing *m'* is provided, which also has exterior threads to engage with threads upon the sleeve, and, in addition, carries a shoulder m^2, which limits the endwise movement of the sleeve. By unscrewing the sleeve the same may be moved to the right, and the conductors within may be exposed. In placing the sleeve in position it is screwed up until the shoulder m^2 is engaged, and the sleeve is thus maintained in position and constitutes a portion of the conduit.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an incandescent-lamp socket, the combination with a base of insulating material having a recess in the end for the reception of the lamp-base, threads being formed in the walls of said recess to engage the threads upon the lamp-base, of a contact plate or terminal fitting in a slot upon one side of said recess and carrying a binding-screw, said base being provided with a recess in the side within which said binding-screw rests, a contact plate or terminal in the bottom of said recess and carrying a binding-screw, said base being provided with a recess in the side within which said binding-screw rests, and a shell surrounding said base and exposing said recesses containing the binding-screws when removed, substantially as described.

2. In an incandescent-lamp socket, the combination with a base of insulating material having a recess in the end for the reception of the lamp-base and provided with recesses in the side, of a pair of contact-terminals situated in said end recess and carrying binding-screws, one in each of said side recesses, and a shell surrounding said base and exposing said side recesses containing the binding-screws when removed, substantially as described.

3. In an incandescent-lamp socket, the combination with a base of porcelain or equivalent insulating material provided with a recess in the end for the reception of the lamp-base, and with lateral recesses in the sides for the binding-posts, of a contact plate or terminal *b* passing through an opening in said base, the end of said terminal being bent into a position parallel with the body of the plate and extending into the recess a^3, binding-screw *b'* passing through a hole in the body of plate *b* and through a hole a^4 in the base and engaging a tapped hole in the end of the plate *b*, contact-terminal *d* passing through an opening in the base, and having its end bent into a position parallel with the body portion thereof, and binding-screw *d'* passing through a hole in the end of terminal *d* through a hole in the base and engaging a tapped hole in the body of the plate, substantially as described.

4. In an incandescent lamp, the combination with a base of insulating material, having an enlarged end and uniformly tapered toward the small end and being provided with a recess in the small end for the reception of the lamp-base, of a shell for said base formed in two parts, one of said parts fitting over the larger end, the other part having a uniform taper conforming to the taper of the base, said parts being provided with screw-threads to permit the screwing of the same together end to end and bring the tapering part of the shell into engagement with the tapering walls of the base to thus secure the base between the two parts of the shell, substantially as described.

5. In an incandescent-lamp socket, the combination with the tapering base *a* having a recess in the end and lateral openings or recesses in the sides, of the contact-terminals *b* and *d* provided in said base, the binding-screws *b'* and *d'* securing said terminals respectively in position the upper shell or casing *e'* fitting upon the end of said base, and the lower tapering shell *e'* screwing into the end of the shell *e*, substantially as and for the purpose set forth.

6. The combination with sections of a main-line conduit placed with their ends at a distance apart, of electrical conductors situated within said conduits and joined together the joints lying in the space between the ends of said conduits, each of said conduits being provided with a threaded end, and a longitudinally-movable sleeve provided with threads adapted to engage the threaded ends of said conduits and with a shoulder or stop at one end to limit the longitudinal movement of the same, whereby by unscrewing said sleeve and moving the same longitudinally access may be had to the joints of the conductors, substantially as described.

7. In a conduit, the combination with the pipes *f*, *f*, of the bushings *m m'* mounted upon the ends of said pipes, and the sleeve *l* screwing upon said bushings, one of said bushings *m'* being provided with a shoulder m^2 to limit the longitudinal movement of the sleeve, substantially as described.

8. The combination with a pipe or conduit having a threaded end, of a socket having a casing screwing upon said threaded end, a bell or shade fitting over the end of said casing, the end of said casing being provided with a thread upon the exterior, and a ring or nut screwing upon said exterior thread and against the shade, to hold the same in position, substantially as described.

9. In an incandescent-lamp socket, the combination with a metallic shell or casing, of a

314

(No Model.)

H. C. WIRT.

LAMP SOCKET.

No. 587,027. Patented July 27, 1897.

FIG. 1.

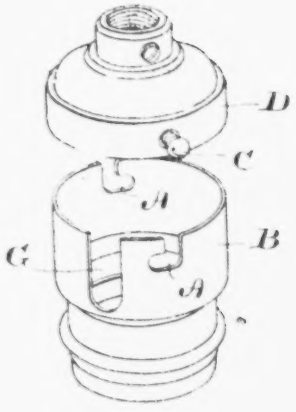
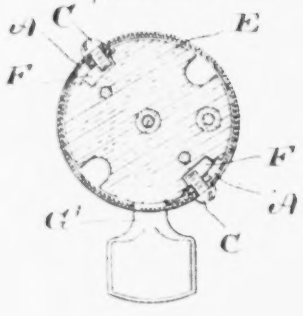


FIG. 2.



WITNESSES.
A. H. Abell.
A. D. Macdonald.

INVENTOR.
Herbert C. Wirt. by
Geo. P. Blodgett.
Atty

UNITED STATES PATENT OFFICE.

HERBERT C. WIRT, OF SCHENECTADY, NEW YORK, ASSIGNOR TO THE GENERAL ELECTRIC COMPANY, OF NEW YORK.

LAMP-SOCKET

SPECIFICATION forming part of Letters Patent No. 587,027, dated July 27, 1897.

Application filed April 30, 1897. Serial No. 634,544. (No model.)

To all whom it may concern:

Be it known that I, HERBERT C. WIRT, a citizen of the United States, residing at Schenectady, in the county of Schenectady, State of New York, have invented certain new and useful Improvements in Lamp-Sockets, (Case No. 552,) of which the following is a specification.

This invention relates to incandescent-lamp sockets, and has for its object to avoid the usual enlarged opening in the shell for the passage of the shank of the key, and which will at the same time permit the two parts of the socket to be put together or taken apart without laterally moving the shank of the key in the opening in the shell of the socket through which the shank passes.

The invention consists in an improved incandescent-lamp socket constructed and arranged as hereinafter set forth and claimed.

Referring to the accompanying drawings, Figure 1 is a perspective view of the shell of an incandescent-lamp socket constructed in accordance with my invention with the two parts of the shell detached. Fig. 2 is an end view in cross-section through one end of the shell, showing the construction of the molded base and the manner of attaching the shell to said base.

Referring to Fig. 1, the usual form of incandescent-lamp-socket shell is shown constructed with the alining L-shaped openings A in one end of one of the parts B of the shell, with which L-shaped openings A are engaged the screws C, projecting through the periphery of the other part D of the shell, said screws C forming, with the L-shaped openings A, "bayonet-joints," thus securing the two parts of the shell together.

In the old form of incandescent-lamp socket or the forms now in use the molded base E, located in the part B of the shell, is formed with recesses, into each of which projects the screw C to engage the shell with the molded base. In such constructions in order to secure the shell to the molded base it was necessary to move the molded base and the part B of the shell simultaneously in order to lock the bayonet-joints, and to permit of this movement the opening through which the shank of the key projects had to be wide enough to permit the shank of the key to have a movement with the base across said opening.

In the present invention the shell is formed with a narrow opening G, just wide enough to permit the passage of the shank G' of the key, and the molded base is formed with the slots or lengthwise recesses F, into which project the screws C. By means of this construction, when the socket is put together the part D of the shell is shoved down onto the part B, the screws C projecting through the periphery of the part D of the shell and through the L-shaped slots A and passing down into the bottom of the L-shaped slots and the shank G' of the key into the narrow opening G. The part D of the shell is then turned on the part B and the screws C are thereby brought to the inner or closed end of the L-shaped openings F, thereby locking the two parts of the socket together, the key and the molded base remaining stationary.

By means of this construction the opening about the shank of the key is a comparatively closed one and the two parts of the socket are firmly secured together.

What I claim is—

1. An incandescent-lamp socket, formed of a two-part shell, one part thereof being provided with L shaped open slots, and the other with screws projecting through the said L-shaped slots; in combination with a molded base having enlarged recesses into which the ends of said screws project and have play to lock the parts together, as and for the purpose set forth.

2. An incandescent-lamp socket, formed of a two-part shell, one of said parts having alining L-shaped open slots and a narrow open slot for the key-shaft, and a molded base in said part of the shell having enlarged recesses; in combination with a second part of the shell having locking-screws projecting through its periphery and adapted to project into said enlarged recesses, said second part of the shell being adapted to be pushed down and partly rotated upon the first part of the shell to engage its locking-screws with the L-shaped open slots in the first part of the shell and lock the parts together.

(No Model.)

R. J. ASHWORTH.

MATCH BOX.

No. 589,921. Patented Sept. 14, 1897.

Fig 1

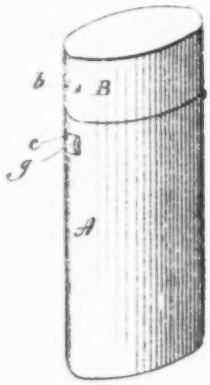


Fig 2

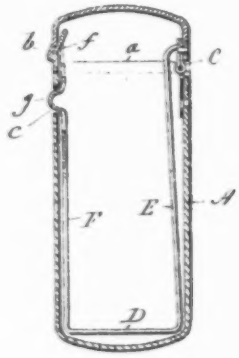
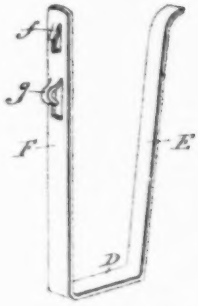


Fig 3



Witnesses:
Fillman D Kelley

Richard J. Ashworth.
Inventor
By Atty
Earle Seymour

UNITED STATES PATENT OFFICE.

RICHARD J. ASHWORTH, OF WATERBURY, CONNECTICUT, ASSIGNOR TO THE WATERBURY MANUFACTURING COMPANY, OF SAME PLACE.

MATCH-BOX.

SPECIFICATION forming part of Letters Patent No. 589,921, dated September 14, 1897.

Application filed December 7, 1896. Serial No. 614,671. (No model.)

To all whom it may concern:

Be it known that I, RICHARD J. ASHWORTH, of Waterbury, in the county of New Haven and State of Connecticut, have invented a new Improvement in Pocket Match-Boxes; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a perspective view of a pocket match-box constructed in accordance with my invention; Fig. 2, a sectional view of the same; Fig. 3, a perspective view of the spring detached.

This invention relates to an improvement in pocket match-boxes, and particularly to that class which are of oval form in cross-section and which have a U-shaped spring inserted inside the case, one leg extending up the rear wall and into engagement with the cover above the pintle of the hinge by which the cover is secured to the body, the other end projecting upward above the upper edge of the body, where it is provided with a hook for engagement with the cover for locking the cover, and with a projection extending through an opening in the forward edge of the case, by which the upper end of the spring is forced inward to release the cover. Heretofore the projection on the spring has been formed by attaching a cap, rivet, or shell to the outer face of the spring, necessitating the independent formation of the cap, rivet, or shell and a second operation to apply it to the spring.

The object of this invention is to reduce the cost of manufacturing match-boxes of the class described; and it consists in forming the projection as an integral part of the spring, and as will be more fully hereinafter described, and particularly recited in the claim.

A represents the body of the box, which is preferably oval in cross-section, to which the cover B is secured by a hinge C in the usual manner, the said cover overlapping the upper edge *a* of the body, which is slightly set in in order that the cover may stand flush with the outer surface of the body. In the forward edge of the cap is a notch *b*, preferably formed by striking the metal outward from the inside. In the front edge of the body, near the upper end, is a rectangular opening *c*. The spring is formed from a strip of metal bent into substantially U shape, its rear leg E extending upward to take a bearing inside the rear wall of the cover above the pintle of the hinge C and tending to throw the cover rearward. The other leg D extends upward against the front edge of the body and is formed near its upper end, which projects above the edge of the body, with a lip or projection *f*, adapted to engage the notch *b* when the cover is in the closed position. Below the lip *f* and in line with the opening *c* is an integral stud *g*, which projects outward through the said opening *c*. This stud is formed by cutting a U-shaped slit in the leg F and striking the metal inside the cut outward and turning its lower end inward, forming a substantially rectangular stud. The box is opened in the usual manner by pressing the stud *g* inward, which forces the lip *f* out of engagement with the notch *b* of the cover, which, under the action of the leg E of the spring, flies open. It will thus be seen that the spring with its lip and stud are formed from a single piece of metal, and the said lip and stud may be formed at one and the same operation, being produced by two punches arranged in the same press. The cost of manufacture is therefore reduced.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

In a match-box the combination with a body portion drawn from a single piece of sheet metal and having an opening formed in its forward edge at a point near its open end, of a cover or cap also formed from a single piece of sheet metal, hinged to the said body portion and formed in its outer edge with an outwardly-projecting notch, a U-shaped spring formed from a long strip or strap of sheet metal adapted to be set into the body portion of the box and comprising a rear and a forward leg, its rear leg being constructed to extend above the open end of the body portion of the box and into the cap or cover thereof with which it engages at a point

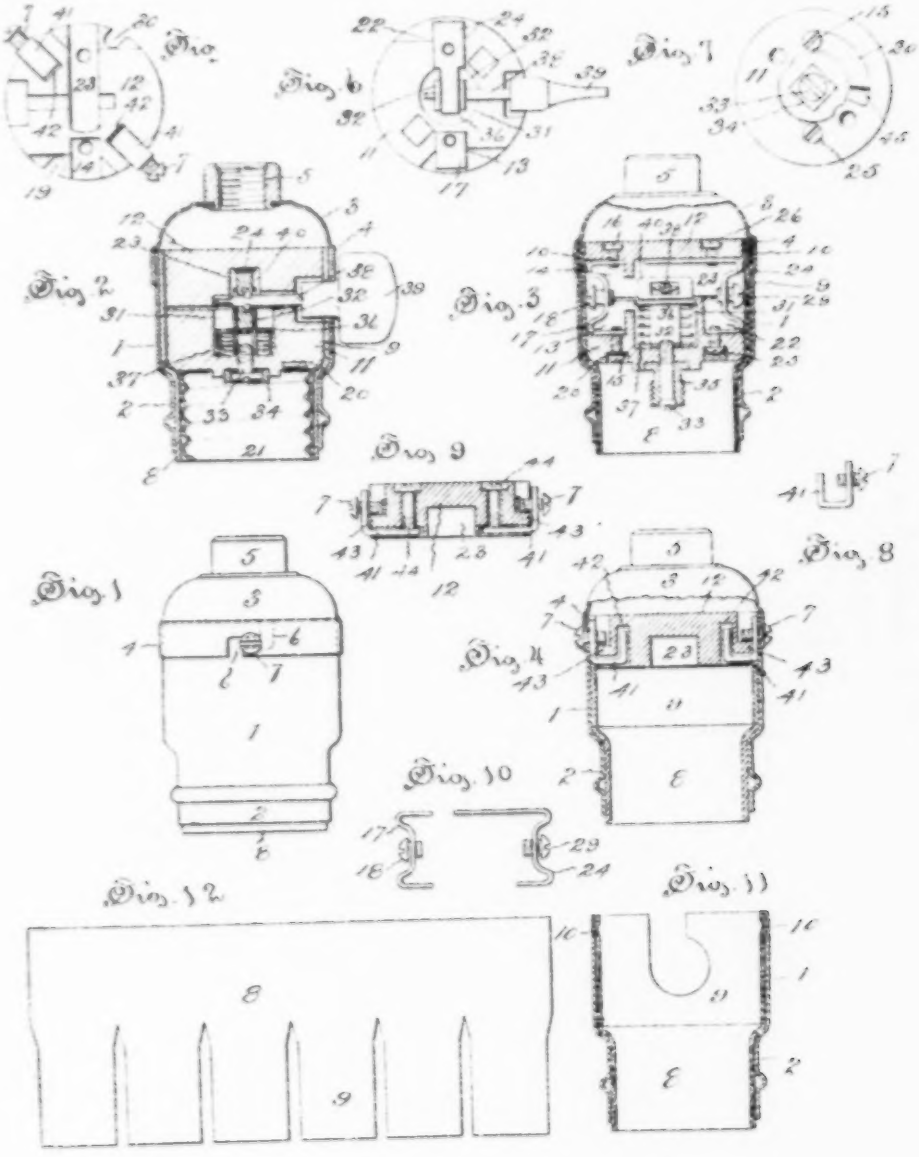
No. 626,927. Patented June 13, 1899.

C. G. PERKINS.

INCANDESCENT LAMP SOCKET.

(Application filed Feb. 13, 1899.

(No Model.)



Witnesses:
E. A. Sherman
E. J. Hydel

Inventor:
Charles G. Perkins, by
Harry A. Williams, Atty.

UNITED STATES PATENT OFFICE.

CHARLES G. PERKINS, OF HARTFORD, CONNECTICUT, ASSIGNOR TO THE PERKINS ELECTRIC SWITCH MANUFACTURING COMPANY, OF SAME PLACE.

INCANDESCENT-LAMP SOCKET.

SPECIFICATION forming part of Letters Patent No. 626,927, dated June 13, 1899.

Application filed February 13, 1899. Serial No. 705,430. (No model.)

To all whom it may concern:

Be it known that I, CHARLES G. PERKINS, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Incandescent-Lamp Sockets, of which the following is a specification.

This invention relates to a receptacle for incandescent lamps having a switch mechanism inclosed in a chamber that is insulated from the shell and from the chamber containing the parts forming the other side of the circuit through the socket.

The object of this invention is the production of a key-socket of this nature that will be simple to manufacture and assemble, exceedingly easy to wire, and very durable, efficient, and safe in use, the parts being so arranged that without interfering with the operating mechanisms by a substitution of interchangeable connections the same socket may be employed for lamps having either the Edison, Westinghouse, or Thomson-Houston type of base.

The sockets illustrated by the accompanying drawings have caps and shells of ordinary design. These are lined with insulating material and contain two insulating-blocks with recesses that when the blocks are put together form two separated chambers, one for the switch mechanism and binding-post for the attachment of a circuit-wire and the other for the binding-post for the attachment of the other circuit-wire, so that a spark caused by opening the switch cannot communicate with the other side of the circuit, and if the wiring is carelessly done a short circuit cannot be formed. The means that secure the cap and shell together are loosely connected with one of the blocks, so that the insulating material need not be formed to exact size. One of the insulating-blocks bears a spring contact that will engage the end of an Edison threaded bushing or the end of a Westinghouse spring-finger thimble or a ring on a Thomson-Houston lamp-base, and this block also is provided with a central contact that may be a plate for contact with the end of an Edison type lamp-base or fingers for the stem of a Westinghouse lamp-base or a threaded stem for the end of a Thomson-Houston base.

Figure 1 of the drawings shows a side view of a socket embodying the invention. Fig. 2 shows a central section of this socket arranged for an Edison type of lamp base. Fig. 3 is a central section taken at right angles to the section shown in Fig. 2, with the threaded bushing removed and a threaded stem substituted for the central plate. Fig. 4 is a section taken on a different plane from those of Figs. 2 and 3 to show the manner of securing the cap and shell. Fig. 5 is a view looking at the bottom of the upper insulating-block. Fig. 6 is a view looking at the top of the lower insulating-block. Fig. 7 is a view looking at the bottom of the lower insulating-block. Fig. 8 is a view of one of the parts employed for securing the cap and shell together. Fig. 9 is a section of the upper insulating-block, showing a modified form of holding means. Fig. 10 shows views of the binding-posts used. Fig. 11 is a central section of the shell and insulated lining, showing the manner of securing them together. Fig. 12 shows a shape of insulated lining that may be used.

The shell 1 is formed with a reduced neck 2, and the cap 3 has a rim 4, that fits upon the upper edge of the shell, and also has a hub 5, through which the circuit-wires pass. Both the shell and the cap, which are preferably made of brass, have bayonet-slots 6 for the passage of the shanks of the fastening screws 7, Fig. 1. The shell is lined with insulating material. This lining may be formed in two parts, the smaller part 8 with an enlarged end, so that it cannot be forced through the neck of the shell, being retained by the larger part 9, which is held by pressing portions 10 outwardly through perforations in the shell, Fig. 11. This lining may, however, be formed from a single sheet of insulating material, cut as shown in Fig. 12, which can be shaped into a cylinder having two different diameters. In the shell and resting upon the insulation at the shoulder between the body and the neck is a block 11 of insulating material, and between this block and the shoulder between the cap and its rim is an insulating-block 12.

cated within the shell, fastening-plates having their inner ends loosely held in mortises in one of the insulating-blocks, fastening-screws extending through the bayonet-slots of the cap and shell and through the ends of the fastening-plates above shoulders on the insulating-block in which the fastening-plates are located, and binding-posts and contacts held by the insulation, substantially as specified.

3. In combination in a lamp-socket, a cap, a shell, two blocks of insulating material with recesses arranged to form two insulating-chambers, a plate with a binding-screw located in one of the chambers and having its ends secured to the respective blocks, a plate with a binding-screw located in the other of the chambers and having its ends secured to the respective blocks, and grooves in the edges of the upper block for the passage of the circuit-wires of the respective binding-screws, substantially as specified.

4. In combination in a lamp-socket, a shell, two blocks of insulating material with recesses arranged to form insulated chambers, a plate with a binding-screw located in one of the chambers, a plate with a binding-screw located in the other of the chambers, and a switch-block located in one of the chambers and adapted to make contact with the end of the plate in the same chamber, substantially as specified.

5. In combination in a lamp-socket, a shell, two blocks of insulating material with recesses arranged to form two insulated chambers, a plate with a binding-screw located in one of the chambers and having its ends secured to the respective blocks, a block with a binding-screw located in the other of the chambers and having its ends secured to the respective blocks, grooves in the edge of the upper block for the passage of the circuit-wires to the respective binding-screws, a switch-block located in one of the chambers and adapted to make contact with the end of the plate in that chamber, and a disk held in yielding contact with the switch-block, substantially as specified.

6. In combination in a lamp-socket, a cap, a shell, an insulating-lining fitting the shell, two blocks of insulating material with recesses arranged to form two insulated chambers, a plate with a binding-screw located in one of the chambers, a plate with a binding-screw located in the other of the chambers, and a switch-block located in one of the chambers and adapted to make contact with the end of the plate in the same chamber, substantially as specified.

7. In combination in a lamp-socket, a cap, a metallic shell, perforations through the walls of the shell near its larger end, an interior lining-shell formed of a coiled sheet of stiff insulating material that springs outwardly against the inner walls of the metallic shell, and outwardly-extending knobs on the exterior side of the insulating-shell projecting into the perforations through the metallic shell, substantially as specified.

8. In combination in a lamp-socket, a cap, a metallic shell having a reduced neck, a lining-shell formed of two pieces of sheet insulation, one piece extending through the neck of the shell and having an enlarged end resting on the shoulder between the neck and body of the shell and the other piece extending through the body of the shell, with portions of the latter piece expanded outwardly into perforations in the metallic shell, substantially as specified.

9. In combination in a lamp-socket, a cap, a shell, two blocks of insulating material located within the shell, insulated chambers formed by recesses in the insulation, and plates bearing outwardly-extending binding-screws located in the recesses and having their ends secured by screws to the respective insulating-blocks, substantially as specified.

10. In combination in a lamp-socket, a cap, a shell, two blocks of insulating material located within the shell, insulated chambers formed by recesses in the insulation, plates bearing outwardly-extending binding-screws located in the recesses and having their ends secured by screws to the respective insulating blocks, and a spring-finger with an indentation near its free end held by one of the plate-securing screws, substantially as specified.

11. In combination in a lamp-socket, a block of insulating material having two separated recesses and two fastening-plate mortises, fastening-plates with the inner ends loosely extending into the mortises, and screws passing through the outer ends of the fastening-plates, substantially as specified.

CHARLES G. PERKINS.

Witnesses:
H. R. WILLIAMS,
E. J. HYDE.

No. 642,825. Patented Feb. 6, 1900.

W. E. A. M. OETTING.

SOCKET FOR INCANDESCENT ELECTRIC LAMPS.

(Application filed Sept. 16, 1899.)

(No Model.)

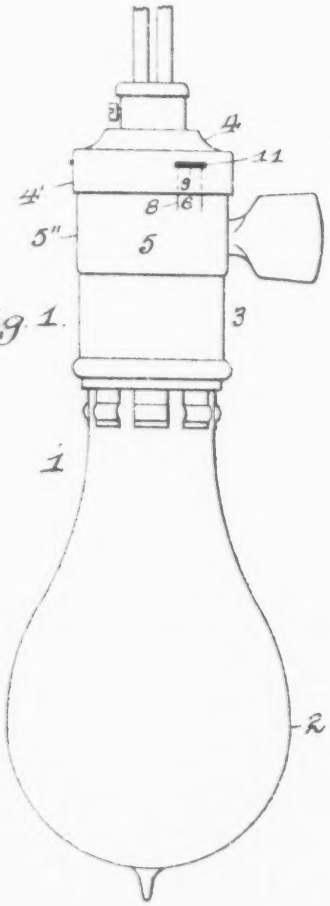


Fig. 1.

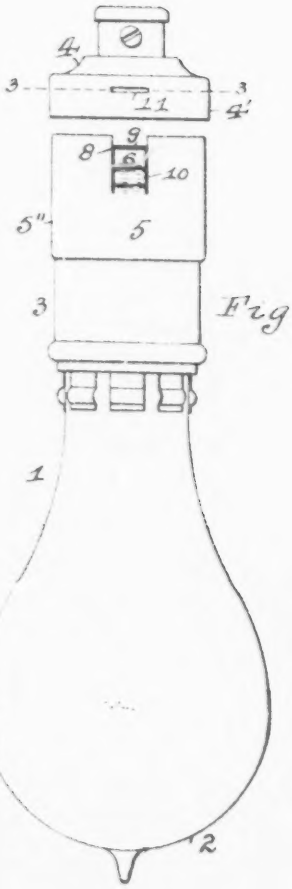


Fig 2.

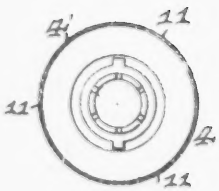


Fig. 3.

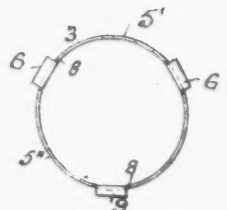


Fig. 4.

Witnesses:
F. C. Wright
J. B. Secretzer

Inventors
William E. A. M. Oetting.
By J. N. Cooke
Attorney

UNITED STATES PATENT OFFICE.

WILLIAM E. A. M. OETTING, OF PITTSBURG, PENNSYLVANIA.

SOCKET FOR INCANDESCENT ELECTRIC LAMPS.

SPECIFICATION forming part of Letters Patent No. 642,825, dated February 6, 1900.

Application filed September 16, 1899. Serial No. 730,672. (No model.)

To all whom it may concern.

Be it known that I, WILLIAM E. A. M. OETTING, a resident of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Sockets for Incandescent Electric Lamps; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to sockets for incandescent electric lamps, and has for its object to provide a cheap and simple means of attaching and removing the cap from the body of the socket.

My invention consists, generally stated, in the novel arrangement, construction, and combination of parts, as hereinafter more specifically set forth and described, and particularly pointed out in the claims.

To enable others skilled in the art to which my invention appertains to construct and use the socket, I will describe the same more fully, referring to the accompanying drawings, in which—

Figure 1 is a side elevation of an incandescent electric lamp having my improved socket applied thereto. Fig. 2 is a like view showing the cap removed and ready for inserting over the socket-body. Fig. 3 is a cross-section of the cap on the line 3 3, Fig. 2, looking at the bottom of the same; and Fig. 4 is a top view of the body of the socket.

Like numerals herein indicate like parts in each of the figures of the drawings.

As illustrated in said drawings, 1 represents the incandescent electric lamp of the ordinary approved construction and composed of the glass bulb or globe 2, which removably fits within one end of a sheet-metal socket 3, having its opposite end provided with a sheet-metal cap 4. The socket 3 is provided with the body portion 5, which is circular in cross-section and has at the open end 5', opposite the globe 2, a series of spring-catches 6. These spring-catches 6 are formed by cutting lengthwise into the metal of the body portion 5 of the socket a sufficient distance from the open end 5', as at 8, and then bending down the end of the metal between the cuts 8 to form the flanges or lips 9 on the catches 6. If desired, the catches 6 can then be reinforced or bent outwardly from the face 6' thereof, as at 10, so as to extend or project slightly beyond the face 5'' of the body portion 5 of said socket 3. The cap 4 is provided with the ordinary flange 4' thereon, which fits down over the open end 5' of the body portion 5 of said socket 3 and has a series of openings or slots 11 formed or cut therein at right angles to the cuts 8 in the body portion 5 of the socket 3.

The use and operation of my improved socket for incandescent electric lamps is as follows: After the globe 2 has been inserted within the socket 3 of the lamp 1, which contains the device for holding the wires and the other parts for operating the lamp 1, and it is desired to place the cap 4, encircling the wires, onto the body portion 5 of the socket 3, all that is necessary is to insert the open end 5' on the body portion 5 of the socket 3 within the flange 4' of the cap 4 and bring the slots 11 in said flange 4' opposite the spring-catches 6. The operator can then force inward the catches 6 by pressing with his fingers on the bent portions 10 thereof, when the flange 4' on the cap 4 can be slipped or pushed farther onto the body portion 5 of the socket 3, which will allow the lips 9 on the catches 6 to spring into the slots 11 on the flange 4' of the cap 4 and secure said cap 4 on the said body portion 5 of said socket.

In case it is desired to remove the cap 4 for any purpose all that is necessary is for the operator to press with his fingers against the catches 6, which will cause said catches 6 to be forced inwardly and free the lips 9 thereon from the slots 11 in the flange 4' of the cap 4, when the cap 4 can be removed from the body portion 5 of the socket 3 and so allow the catches 6 to spring back to their normal positions. The slots 11 in the flange 4' of the cap 4 are made slightly longer than the lips 9 on the catches 6 in order to give sufficient play for the lips 9 therein, and when the outwardly-bent portions 10 on said catches 6 are used they act to enable the operator to press the catches inward more easily and quickly.

It will thus be seen that my improved socket for incandescent electric lamps is cheap and simple in its construction and operation, and by its use the cap can be attached and removed from the socket of the lamp in a rapid and convenient manner. The device does away with the cutting of the bayonet-

No. 657,267. Patented Sept. 4, 1900.

M. EPSTEIN.

MATCH BOX.

(Application filed June 5, 1900.

(No Model.)

Fig. 1.

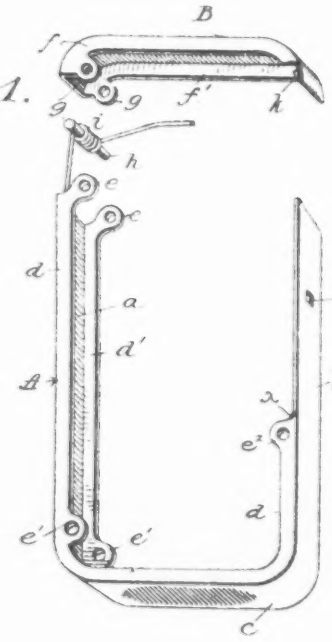


Fig. 3.

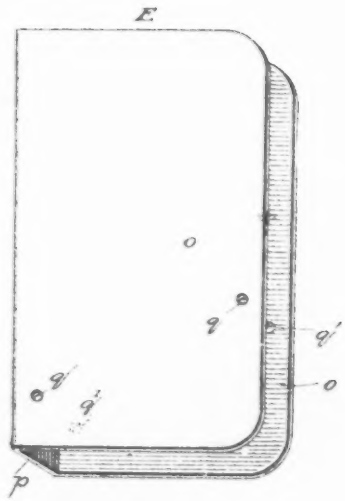


Fig. 2.

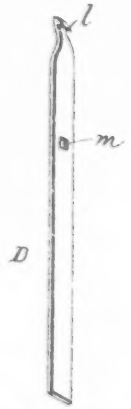
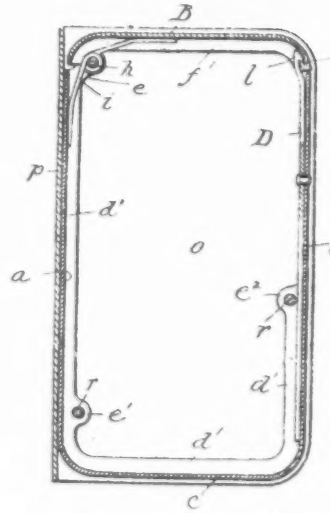


Fig. 4.



WITNESSES:

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INVENTOR

Morris Epstein

BY Wheeler & Wheeler

ATTORNEY

UNITED STATES PATENT OFFICE.

MORRIS EPSTEIN, OF NEW YORK, N. Y.

MATCH-BOX.

SPECIFICATION forming part of Letters Patent No. 657,267, dated September 4, 1900.

Application filed June 5, 1900. Serial No. 19,181. (No model.)

To all whom it may concern:

Be it known that I, MORRIS EPSTEIN, a citizen of the United States, residing at New York city, borough of Manhattan, in the county of New York and State of New York, have invented certain new and useful Improvements in Match-Boxes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in match-boxes of the kind constructed more particularly for carrying about the person in the waistcoat or other pocket.

The object of the invention is to produce a simple and economical match-box of the kind referred to which shall be capable of being made of very light material and put together by means of rivets only.

In the accompanying drawings, Figure 1 represents a perspective view of the several parts of the frame of my improved match-box. Fig. 2 represents the spring-catch for holding the spring-top of the box closed; Fig. 3, the cover of the box, and Fig. 4 represents a vertical longitudinal section of the match-box.

Referring to the drawings, A designates the frame of the box, which is made in a single piece from a strip of thin metal bent to form the back rim *a*, front rim *b*, and bottom rim *c*. The edges of these parts are bent over at right angles to form flanges *d d'*, that extend from the upper or top end of the back rim *a* around the edges of the bottom rim *c* and up the front rim *b* and terminate at *e* at a point about half-way between the bottom and top of said front part. These flanges have projections or ears *e' e²*, respectively, at the ends thereof and at an intermediate point—say at the junction of the back rim *a* with the bottom rim *c*—and the ears are perforated for the rivets that fasten the cover on the frame, as will be described presently.

B is the top of the match-box. This is struck up in a single piece from thin metal and has its edges bent over at right angles to form flanges *f f'*, that extend from end to end of the top. At the rear end ears *g g* are formed on the flanges to receive the pintle *h*, on which the top turns. The spring *i* for throwing the top open is wound around this pintle, as shown. The front end of the top B is turned under to form a hook *k*, that engages the catch that fastens the top when closed.

D is a spring-catch made from a flat piece of steel and having the catch *l* at its upper end and a rivet-hole *m*, which when the spring-catch is in position is in line with a rivet-hole *n* in the front rim of the box-frame. The spring-catch is narrower than the front rim of the frame.

E is the cover of the box, which is made from a single piece of material manipulated in such a manner as to form the sides *o o* and back *p* of the cover. In the sides rivet-holes *q q'* are formed, that correspond in position to the rivet-holes in the ears *e' e²*.

The several parts of my improved match-box having been described, I will now proceed to state the method of putting them together to form the box.

The spring-catch D is laid against the inside of the front rim between the flanges *d d'* and fastened in that position by means of the single rivet, as shown in Fig. 4. The top B is connected with the frame by inserting its ears *g g* between the ears *e e* on the flanges *d d'* of the back rim *a* and securing it in that position by means of the pintle *h*, passed through the perforations in the said ears. The spring *i*, which is wound around the pintle, is arranged so that one end bears against the top and the other against the back rim, as shown clearly in Fig. 4. The spring is wound in such a manner that its upper end, that bears against the top, forces the top up to open the box when it is released from the catch. The frame thus put together is inserted between the sides *o o* of the cover E, with its back rim against the back thereof, and is secured in place by means of rivets *r r'*, passed, respectively, through the perforations or rivet-holes in the ears *e' e²* in the frame and *q q'* in the cover, as indicated in Fig. 4, thus forming the complete match-box. The rivet *r'* being inside the spring-catch D aids in holding the same in place. The front rim *b* being of thin metal bends readily when pressed, but the spring-catch D returns it to its proper position.

The match-box is closed by turning the top B down until the hook *k* forces the spring-catch *l* back and passes the same, whereupon

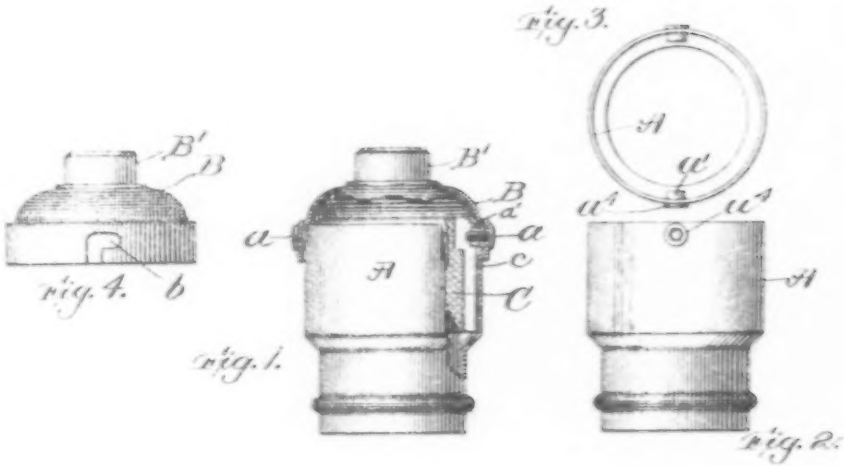
No. 680,932. Patented Aug. 20, 1901.

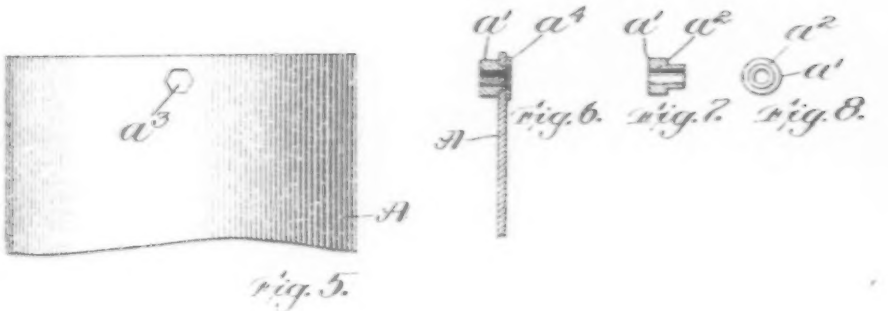
N. MARSHALL.

INCANDESCENT LAMP SOCKET.

(Application filed Mar. 18, 1901.)

(No Model.)





Witnesses:
Arthur D. Randall,
Catharine A. Dugan.

Inventor
Norman Marshall
by
Ira L. Fish
Attorney.

UNITED STATES PATENT OFFICE.

NORMAN MARSHALL, OF NEWTON, MASSACHUSETTS.

INCANDESCENT-LAMP SOCKET.

SPECIFICATION forming part of Letters Patent No. 680,932, dated August 20, 1901.

Original application filed August 8, 1900, Serial No. 26,284. Divided and this application filed March 18, 1901. Serial No. 51,681. (No model.)

To all whom it may concern:

Be it known that I, NORMAN MARSHALL, of Newton, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Incandescent-Lamp Sockets, of which the following is a specification.

My invention relates to incandescent-lamp sockets, and more especially to the metallic shell which incases and supports the insulating-base upon which the current-carrying parts of the socket are mounted; and its object is to provide a shell formed in two parts—a cylindrical part and cap part—which is simple in construction, which may be conveniently and cheaply manufactured, and in which the parts are securely held together when connected and may be readily connected or disconnected in assembling or separating the parts of the socket. Heretofore in shells of the general character referred to it has been customary to secure the parts together by providing bayonet-joints in the cylindrical part of the shell, arranged to engage screws carried by the cap, which screws could be tightened after the parts were assembled to securely hold the cap and body together. These screws have been threaded into arms or ribs extending downward within the cap from a yoke secured to the inner end of a nozzle or bushing at the top of the cap through which the line-wires pass. In the shell embodying the present invention the construction is simplified and cheapened by securing metal studs in the wall of the shell, into which the screws are threaded and which provide an effective, simple, and reliable means for engaging the threads of the screws and holding the same in place. I prefer to secure the studs in place by forming an irregular or polygonal hole in the thin wall of the shell, into which the stud is expanded, and I also prefer to form a shoulder on the stud and to turn over the end of the stud to clamp the wall of the shell between said end and the shoulder. This construction is more simple than the construction heretofore employed and is cheaper, both by reason of the reduction in the amount of metal used and the reduction in the labor involved in manufacturing the shells. The screws may be thus secured to either the cylindrical part of the shell or to the cap, but I prefer to secure the screws to the cylindrical portion and to form the bayonet-slots of the bayonet-joints in the cap, and I have shown this form of the invention in the accompanying drawings, in which—

Figure 1 is an elevation, partly in section, showing a socket embodying the features of the present invention. Fig. 2 is an elevation of the cylindrical part of the shell with the screws and caps removed. Fig. 3 is a plan view of Fig. 2. Fig. 4 is an elevation of the cap. Fig. 5 is an enlarged view of the upper end of the cylindrical part of the shell. Fig. 6 is an enlarged detail sectional view. Figs. 7 and 8 are enlarged details of the stud.

The shell is in two parts—a cylindrical part A and a cap B—formed of thin sheet metal, and when the parts of the socket are assembled this shell incloses the insulating-base C of the socket, as indicated in Fig. 1. The cap B is provided at its upper end with bushing or nozzle B', secured in an opening through the cap and provided with a screw-threaded opening by which the socket may be secured to a fixture and through which the line-wires pass to the terminals of the socket. The cap is also provided with two bayonet-joint slots b, which are arranged to engage the shanks of screws a, carried by the cylindrical part A. The screws are connected with the shell by being threaded in studs a', secured in the walls of the shell. In securing these studs in the walls of the shell I form irregular holes a^2 in the shell, the holes preferably being polygonal, as shown in Fig. 5. The hollow studs are provided with an end of reduced diameter, forming a shoulder at a^2 for engaging the walls of the shell. The reduced end of the stud is passed through the irregular hole in the shell and the part which extends through the wall is turned over, thus clamping the wall between the shoulder a^2 and the turned-over part a'. The stud is also expanded within the hole b into the irregular parts of the hole, so that said stud will be securely held from turning in the wall of the shell. The stud may be quickly and conveniently secured in place by the action of a punch shaped to both expand the part within the wall of the shell and

No. 690,976. Patented Jan. 14, 1902.

N. MARSHALL.

SOCKET FOR INCANDESCENT LAMPS.

(Application filed Aug. 8, 1900.)

(No Model.)

Fig. 1.

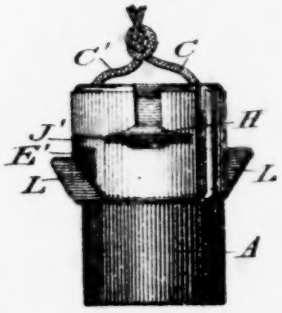


Fig. 2.

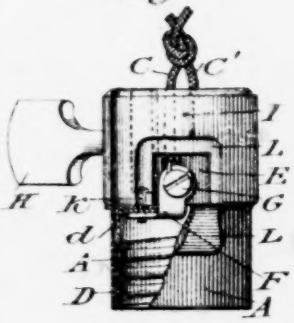


Fig. 3.

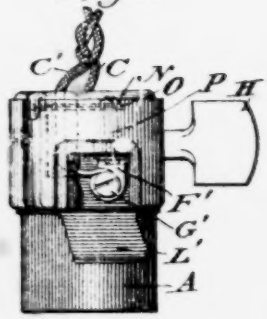


Fig. 4.

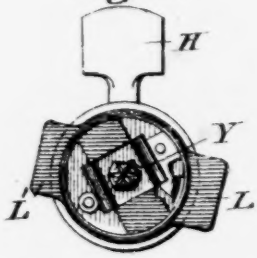


Fig. 5.

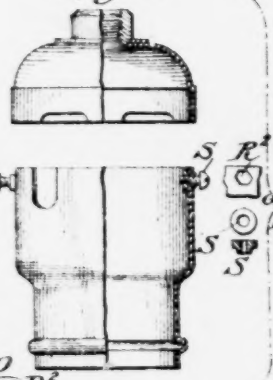


Fig. 6.

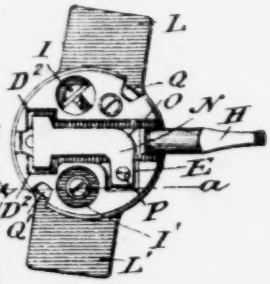


Fig. 7.

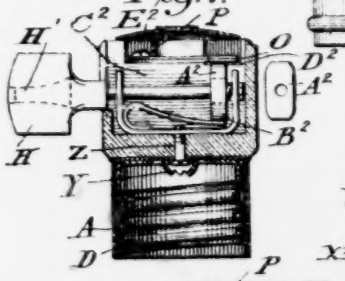


Fig. 8.

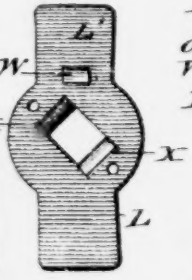


Fig. 9.

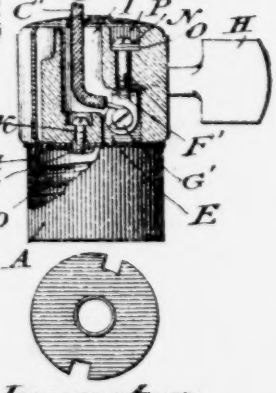
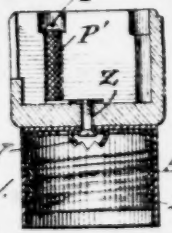


Fig. 10.



Witnesses:
E. M. Baker.
P. O. Harding.

Inventor:
Norman Marshall

UNITED STATES PATENT OFFICE.

NORMAN MARSHALL, OF NEWTON, MASSACHUSETTS, ASSIGNOR TO MARSHALL-SANDERS COMPANY, OF BOSTON, MASSACHUSETTS, A CORPORATION OF MAINE.

SOCKET FOR INCANDESCENT LAMPS.

SPECIFICATION forming part of Letters Patent No. 690,976, dated January 14, 1902.

Application filed August 8, 1900. Serial No. 26,284. (No model.)

To all whom it may concern:

Be it known that I, NORMAN MARSHALL, a citizen of the United States, residing at Newton, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Sockets for Incandescent Lamps, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to improvements in sockets for incandescent lamps.

The object of my invention is to provide a socket in which the current-carrying parts are effectively insulated from the metallic outer shell under all conditions, in which the wire contacts are easily accessible, and in which the circuit-breaking mechanism is effective and durable for high voltages, and at the same time cheaply made, with the least opportunity for defects of manufacture. I obtain these results by the mechanism illustrated by the accompanying drawings and described in the following specification.

Figure 1 is a side view of my improved socket with the shell removed and the insulating-ears L L' partly open. Fig. 2 is a similar view facing one wire terminal G and with part of the insulating-ring A and lamp-terminal D cut away and the insulating-ear L thrown back in position for connecting the conducting-wire. Fig. 3 is a similar view facing the opposite terminal G'. Fig. 4 is an end view of Fig. 1, showing the flexible inner lamp-terminal and terminal insulating-ears L L'. Fig. 5 is a half side view and a half-section of the metallic shell and cap and detail of the screw and nut formed into the shell for holding cap and shell together. Fig. 6 is an end view of Fig. 3 with the cord removed, showing the central recess and circuit-breaking mechanism therein and the two large cord-holes I I'. Fig. 7 is a section through the center of the porcelain socket-body and circuit-breaking mechanism and lamp-contacts, showing these parts, dotted lines on the tip and key representing the mechanism in its "off" position. Fig. 8 is a detail of the flexible insulating-earpiece as it is stamped out for insulating the wire contacts and other parts from the outer shell. Fig. 9 is a part section on line *a a*, Fig. 6, showing the opening from the hole I' to the contact recess E' and the screw-shell fastening *d* and threaded eyelet V. Fig. 10 is a view showing a keyless socket.

Referring to Figs. 1, 2, 3, 4, 5, and 6, B is a body or case, preferably of pottery, supporting as an integral part of itself all of the socket except the outer metallic shell and cap. To one end of this porcelain body the lamp-terminals Y and D are attached. The drawings show these terminals adapted to Edison base-lamps. The socket may be adapted to Thomson-Houston lamps by making the ordinary threaded plug for the inner terminal and a flat ring replacing the flange of the outer terminal D. It may be adapted to the Westinghouse lamp by making a V-shaped spring for the inner lamp-terminal and a beaded clamp-shell for the outer terminal. This porcelain body B is formed with a large central cavity C^2, Fig. 7, to receive the circuit-breaking mechanism. This cavity is formed with shoulders or ledges at D^2, upon which the contact-spring O rests when not in contact with the tip A^2, which spring is secured to the block in a recess at E^2. The cavity E^2, in which the spring O is fastened, is made deeper on the side next the center of the body to give the spring O a downward tension against the ledge D^2, assuring certainty of the position of the contact and a maximum break distance when the tip is turned to break the circuit.

C C' are the conducting-wires. C leads through a hole I to a lateral recess E, in which are placed the wire terminal F and binding-screw G, which is connected to the outer lamp-terminal D through its flange. The conducting-wire C' passes through the hole I' to the terminal F', which is connected by means of the screw P to the mechanism-spring O, which is protected by an insulated leaf N of the same shape as the spring. This spring makes a contact with the tip of the circuit-controlling key A^2 when in a position shown by full line of Fig. 7 and by way of the frame-piece B^2 and screw Z connects with the inner flexible lamp-terminal Y. When the handle H is turned in position of the dotted lines H', the circuit is broken between the spring O

combination of a metallic outer shell an insulating body portion having cavities for the contacts and flexible insulating attachments inseparable therefrom, adapted to cover the contacts, and a lamp-terminal with a complete fixed insulation.

4. In a socket for incandescent lamps, the combination of a metallic outer shell and insulating-body, supporting lamp-terminals, with insulating-ears adapted to cover the wire terminals, rings and appurtenances inseparable therefrom completely covering all current-carrying parts and separating the same from the metallic shell substantially as shown and described.

5. In a socket for incandescent lamps, the combination with an outer metallic shell of an insulating-body preferably of pottery, having a central cavity for the reception of the circuit-controlling mechanism in one end, holes from the same end leading to lateral recesses containing wire terminals upon the opposite end, an insulating-strip adapted to cover said wire terminals when the body is inserted in the shell and adapted to bend outward to give access to the terminals.

6. In a socket for incandescent lamps the combination with a metallic outer shell of an insulating-body having a central cavity for the reception of the circuit-controlling mechanism, a contact-spring within said cavity and an insulating-sheet covering said spring.

7. In a socket for incandescent lamps, the combination of an insulating-body preferably of pottery, having opposite cavities on one end, containing circuit-terminals, holes from the terminal cavities to the opposite end of the body, a complete insulating ring permanently attached to the outer lamp-terminal and body, flexible insulating-ears permanently attached to the body adapted to insulate the circuit-terminals from the metallic shell when the body is within the shell and to expose the circuit-terminals for connecting the terminal wires when the body is separated from the shell, an outer metallic shell substantially as shown and described.

8. In a socket for incandescent lamps, the combination of an insulating-body preferably of pottery, having in one end a central cavity for the reception of the circuit-controlling devices, and shoulders upon one end of the cavity for limiting the motion of the contact-spring, holes from one end of the body, lateral recesses connecting with said holes and adapted to receive the wire contacts, a fibrous covering for the contacts when the body is inserted in the shell of the socket and capable of being turned aside when the body is out of the shell of the socket; a complete insulating-ring fastened to the outer contact of the socket and a metallic outer covering or shell and cap substantially as shown and described.

9. In a socket for incandescent lamps the combination with a metallic outer shell, of an insulating-body carrying wire terminals, and insulating-coverings for said terminals when the body is inserted in the shell and capable of being turned aside when the body is out of the shell.

10. In an incandescent lamp socket, an insulating and supporting body constructed with two opposite cavities for the circuit-connecting screws and insulating covers therefor, one of these cavities also enlarged for the screw connecting said block with the shell; two holes for two circuit-wires from the base to said above-mentioned cavities; a central excavation from one side of, and in the bottom of, the block nearly to the opposite side for the frame-piece, key-shaft, and contact-block, and having recessed shoulders for holding and connecting the contact-spring O and its insulator within the lower surface of the block; and a hole in the top of the block for the contact-spring Y, all substantially as described and shown.

11. In an incandescent-lamp socket, the combination of an insulating-block constructed substantially as described and shown, in combination with a circuit-controlling key and metallic support and spring therefor inclosed within said block; a metallic lamp-contact connected and held by a screw upon one end of said block, a spring recessed and held in the opposite end of said block above its central cavity and having an insulating-cover therefor, and circuit-terminals for the two wire circuits, one connecting permanently with the socket-shell and the other with the said insulated spring, and all being adapted to enable the circuit-controlling key to make contact with said spring to open and close the circuit; substantially as described and shown.

12. In an incandescent lamp socket, in combination with an insulating-block and circuit-controlling key, circuit-terminals and a metallic shell mounted upon said block, an insulating shell or rim of fiber connected with depending flexible ears adapted to cover the recesses containing the circuit-terminals, substantially as described and shown.

13. In an incandescent-lamp socket the combination of an insulating-body having a recess therein for inclosing the circuit-controlling devices, a contact-spring arranged over said recess and supported on shoulders formed on said body, and a circuit-controlling key for engaging said spring.

14. In a socket for incandescent lamps a body portion of pottery with a hole extending partially through from one end for the conducting-wires, a recess extending in from the other end for the wire terminal, with a lateral opening connecting the two, substantially as shown and described.

15. In a socket for incandescent lamps a body portion B formed with contact recesses F F' extending in from one end, holes I I' formed from the other end, an opening between the hole I and the recess F as shown and described.

16. An insulating-body for incandescent-lamp sockets provided with a cavity in one

928'069

No. 712,685. Patented Nov. 4, 1902.

O. E. KENNEY.

SOCKET FOR INCANDESCENT LAMPS.

Application filed May 31, 1902.

(No Model.)

Fig. 1

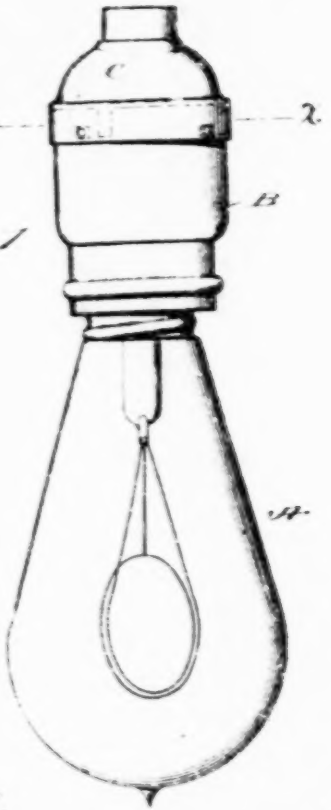


Fig. 3

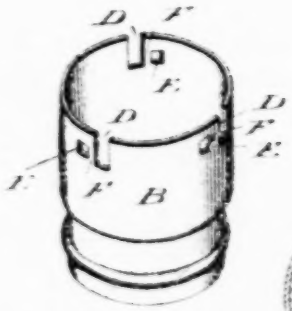


Fig. 4

Fig. 2.

Witnesses:
Jno. Ennis
Geo. M. Copenhaver.

Inventor
Otto E. Kenney
By Wm. C. Whittemore
Attorney

UNITED STATES PATENT OFFICE.

OWEN E. KENNEY, OF TOLEDO, OHIO, ASSIGNOR TO YOST-MILLER COMPANY, OF TOLEDO, OHIO, A CORPORATION OF OHIO.

SOCKET FOR INCANDESCENT LAMPS.

SPECIFICATION forming part of Letters Patent No. 712,685, dated November 4, 1902.

Application filed May 31, 1902. Serial No. 109,670. (No model.)

To all whom it may concern:

Be it known that I, OWEN E. KENNEY, a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented certain new and useful Improvements in Sockets for Incandescent Lamps; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to certain new and useful improvements in the manner of connecting together the caps and shells of incandescent-lamp sockets.

In lamp-sockets as at present made and where the cap and shell are connected through the medium of bayonet-slots in the shell and adjustable screws located in the shell and interior lugs such construction involves considerable cost of manufacture and requires manipulation and adjustment to prevent accidental separation after they have been properly connected.

My invention has for its object to simplify the construction of the means for securing the cap and shell in separable relation with one another and which shall be economic of construction, the portions of the locking devices connected, respectively, with the cap and shell being always in fixed and immovable relation with their respective parts and adapted to make ready connection with one another and not liable to accidental separation.

In order that those skilled in the art to which my invention appertains may know how to make and use my invention and fully appreciate its advantages, I will proceed to describe the same, referring by letters to the accompanying drawings, in which—

Figure 1 represents a side elevation of an incandescent lamp with a socket embracing the features of my invention. Fig. 2 is a cross-section on the line *x x* of Fig. 1. Fig. 3 is a perspective view of the socket-inclosing shell, and Fig. 4 is a similar view of the cap.

In the several figures of the drawings similar letters of reference designate like parts.

A is an ordinary lamp designed to be secured within the socket by the usual male and female screw-threads.

B is the shell, and C the cap, of the socket and composed of sheet-brass.

The lamp and socket shown are of the keyless type and in which the contact is made and the circuit closed by simply screwing the lamp to its seat.

The shell B is formed with two or more (preferably three) vertical slots or channels D, extending from its upper edge, and, as shown, at one side of each of the slots or channels D, and preferably to the left, is formed a radial slot or gate E, leaving a partition F integral with the body of the shell for the purpose to be presently explained. The cap C is formed with short radial studs G, projecting inwardly a sufficient distance to enter and lie within the slots or gates E, and their cross-section is such that they may readily pass down vertically in the vertical slots or channels D as the cap B is being placed over the shell A. The studs G may be made separate from the cap B and secured in place in any suitable manner, or they may preferably be formed at the required localities by punching the metal of the cap inwardly by the use of suitable dies and, as shown at G', Fig. 4, in the manner well known to sheet-metal workers.

When the parts are constructed as described and it is desired to connect the cap and shell together, the cap is located with the radial studs G in alinement with the vertical slots or channels D of the shell, and the cap is forced downwardly over the shell until it is arrested by the contact of the studs with the bottom of the slots D. The cap is then turned to the right, whereupon the studs ride upon the outer surface of the partitions or bridges F between the slots D and E. Said partitions or bridges by reason of the presence of the open top slots or channels D yield or spring inwardly to a sufficient extent to permit the studs G of the cap to ride freely over them and until they register with and enter the slots E, where they are held by the return of the bridges F to their normal positions, the relation between the shell B, insulating-lining H, and blocks I being

No. 712,686. Patented Nov. 4, 1902.

O. E. KENNEY.

SOCKET FOR INCANDESCENT LAMPS.

Application filed May 31, 1902.

(No Model.)

Fig. 1.

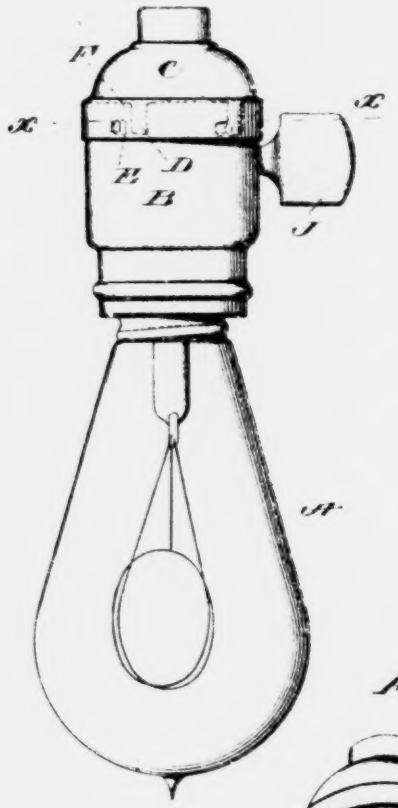


Fig. 4.

Fig. 3.

Fig. 2.

Witnesses:

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Ch. E. Robertson

Inventor

Owen E. Kenney

By Wm. C. Whittemore

Attorney

UNITED STATES PATENT OFFICE.

OWEN E. KENNEY, OF TOLEDO, OHIO, ASSIGNOR TO YOST-MILLER COMPANY OF TOLEDO, OHIO, A CORPORATION OF OHIO.

SOCKET FOR INCANDESCENT LAMPS.

SPECIFICATION forming part of Letters Patent No. 712,686, dated November 4, 1902.

Application filed May 31, 1902. Serial No. 109,671. (No model.)

To all whom it may concern:

Be it known that I, OWEN E. KENNEY, a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented certain new and useful Improvements in Sockets for Incandescent Lamps; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to certain new and ful improvements in sockets for incan- nt lamps, and particularly to that class h the circuit is closed and opened the medium of a revoluble key jour- d in the insulator-blocks—such, for in- nce, as shown in the Letters Patent No. 698,394, granted to the Yost-Miller Company as assignee of L. P. Dixon, on the 22d day of April, 1902.

My invention has for its object to provide simple and efficient means for securing the body and cap portions of the socket-inclosing shell together, and at the same time to secure the socket proper against accidental movement or rotation within the shell during the manipulation of the key.

With these ends in view my invention consists in forming the shell with open-end slots or gates at the upper edge and adjacent slots or pockets, with a bridge or partition between them and the open-end gates or slots, and forming the cap with radial inwardly-projecting studs adapted to enter the vertical gates or slots and to spring into the adjacent slots or pockets, as described and illustrated in another application for Letters Patent filed of even date herewith, and combining with said features of construction bayonet-slots in the shell intermediate of those referred to and providing the cap with additional radial projections intermediate of those referred to and of suitable proportions to enter pockets or recesses within the periphery of the socket-base or insulator-block to lock the same in position, all as will be hereinafter more fully explained.

In order that those skilled in the art to which my invention appertains may know how to make and use the same, I will proceed to describe the construction, referring by letters to the accompanying drawings, in which—

Figure 1 is a side elevation of a lamp and socket embodying the features of my invention. Fig. 2 is a cross-section on the line *x* of Fig. 1. Fig. 3 is a perspective view of the sheet-metal shell of the socket, and Fig. 4 is a similar view of the sheet-metal cap designed for attachment to the ordinary fixture and to conceal and hold the socket within the shell.

Similar letters of reference denote like parts in the several figures of the drawings.

A is an ordinary lamp, designed to be attached to the socket in any of the manners well known in the art, B is the socket-shell, and C is the cap, made of sheet metal. D represents vertical slots or gates; E, slots adjacent thereto and separated therefrom by partitions F. G represents radial projections on the interior of the cap C, designed to travel vertically in the slots or gates D and laterally into the slots E, and H and I are respectively the insulating lining and blocks, all as fully described in my other application hereinbefore referred to. In addition to these features of construction J represents the ordinary key, which is employed to close or open the circuit. This key is journaled in the socket proper, and when the socket and key are introduced within the shell B the key travels down and is located within a vertical slot K. (See Fig. 3.) The upper insulator block or base I is formed near its face with diametric pockets or recesses L, for the purpose presently explained.

M M are diametric bayonet-slots formed in the shell B intermediate of the gates and pockets D E, as is usual in lamp-sockets of ordinary construction. The cap C in addition to the radial projections G G is provided with diametric projections or lugs N N intermediate of the projections G and of sufficient length to pass through the bayonet-slots M and into the sockets L in the periphery of the block or base I, as clearly shown at Fig. 2.

While I have described and shown the respective slots in the shell B and the radial

AKTIENGESELLSCHAFT MIX & GENEST IN BERLIN.

Swanfassung.

Fig. 1.

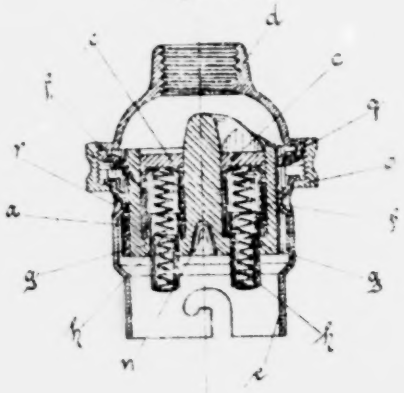


Fig. 2.

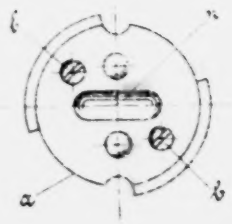


Fig. 3.

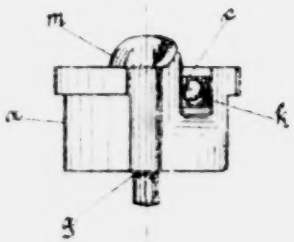


Fig. 5.

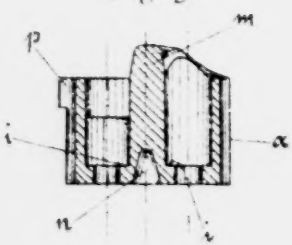


Fig. 4.

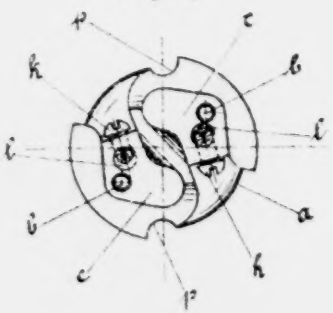


Fig. 6.

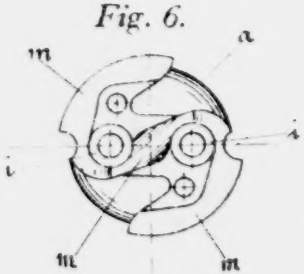


Fig. 8.

Fig. 7.

Fig. 9.

Zu der Patentschrift

№ 106898.

PHOTOGR DRUCK DER REICHSDRUCKEREI

Mix & Genest.
No. 106,898.

KAISERLICHES PATENTAMT

AUSGEGEBEN DEN 30. NOVEMBER 1899.

PATENTSCHRIFT

— № 106898 —

KLASSE 21: Elektrische Apparate und Maschinen.

AKTIENGESELLSCHAFT MIX & GENEST in BERLIN.

Swanfassung.

Patentirt im Deutschen Reiche vom 9. April 1899 ab.

Vorliegende Erfindung verfolgt den Zweck, für höhere Betriebsspannungen bei elektrischen Lichtanlagen dem inneren Aufbau der Swanfassungen eine solche Anordnung zu geben, dafs dadurch eine bessere Isolation gegenüber den bisher gebräuchlichen Formen erzielt wird.

Anfänglich waren die bei den Glühlampen den Stromschlufs vermittelnden Stromschlufsstifte mit den Leitungsstücken frei auf der der Glühlampe zugewendeten Stirnfläche des Fassungssteines angebracht; später setzte man zwischen die Anschlufsstücke, bezw. zwischen die Anschlufsstücke und den Fassungsmantel, Scheidewände; eine weitere Verbesserung bestand darin, dafs man um die Anschlufs- sowie Stromschlufsstücke, welche sämmtlich auf der der Lampe gegenüberliegenden Seite des Fassungssteines angeordnet waren, einen zweiten Isolationskörper legte, aus welchem dann die Stromschlufsstücke herausschauten.

Die letztgenannte Anordnung bedingt jedoch eine sehr umständliche und kostspielige Construction, welche obendrein die Montage aufhält und dadurch die elektrischen Lichtanlagen noch mehr vertheuert. Diese Uebelstände sollen nach der vorliegenden Erfindung dadurch beseitigt werden, dafs man nur die beiden Stromschlufsstücke auf die eine Seite des Steines legt, während sämmtliche Anschlufsstücke auf der anderen Seite sich befinden.

Auf der beiliegenden Zeichnung veranschaulicht Fig. 1 die neue Fassung im senkrechten Schnitt; Fig. 2, 3 und 4 stellen den Fassungsstein mit seinen Metallstücken in Unteransicht, im Aufriss, sowie in Obenansicht dar, während Fig. 5 und 6 den Stein für sich in Draufsicht und Aufriss verbildlichen. Fig. 7, 8 und 9 zeigen andere Einzelheiten.

Auf der der Glühlampe abgekehrten Stirnseite des Fassungssteines *a* sind mittelst tief versenkter Schrauben *b* die beiden Anschlufsstücke *c* aufgeschraubt (Fig. 2 bis 4). Dicht unter letzteren lagern die beiden Hülsen *f* federnd und, dadurch gut stromschlufsbildend, in Bohrungen des Steines. Die Federung wird dadurch erzielt, dafs das unter dem Anschlufsstück *c* liegende Ende der Hülsen nach auswärts gebogene Lappen *f*¹ (Fig. 7 und 8) besitzt, die beim Festschrauben der Anschlufsstücke von diesen wieder einwärts gebogen werden. In jeder der Hülsen steckt eine zweite Hülse *g* (Fig. 9), die durch eine Feder *h* gegen einen Ansatz *i* (Fig. 5 und 6) des Fassungssteines gedrückt wird und den Stromschlufs mit der Lampe vermittelt. Die Federn *h* drücken ausserdem die Hülsen *f* gegen die Anschlufsstücke *c*, um den Stromschlufs zwischen letzteren noch mehr zu sichern und zugleich einen Theil der Stromzuleitung zu übernehmen. Die Lappen *f*¹ der Hülsen *f* sind ferner ein Mittel, etwaige Unterschiede in der Höhe der Hülsen selbst, sowie in der Tiefe ihrer Ausbohrungen im Fassungsstein auszugleichen.

Die Anschlufsstücke *c* besitzen zum Anschlufs der Leitungen mittelst der wagerechten Schrauben *k* senkrecht gebohrte Löcher *l*. Um die Isolirstrecke zwischen den Anschlufsstücken *c* zu vergrößern, ist der S-förmige Steg *m* auf dem Fassungsstein angebracht, gleichzeitig dient dieser Steg dazu, die Verbindung von den beiden Anschlufsstücken nach dem Fassungsmantel, sowie die Berührung der beiden

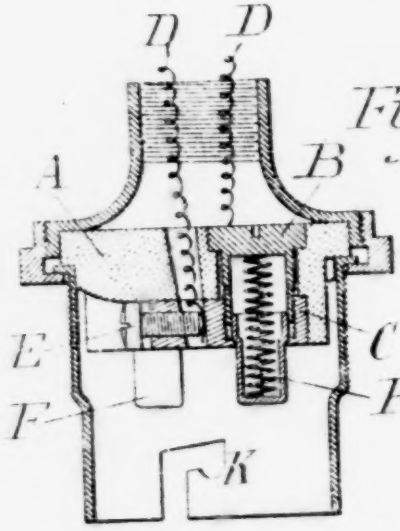


Fig 1.

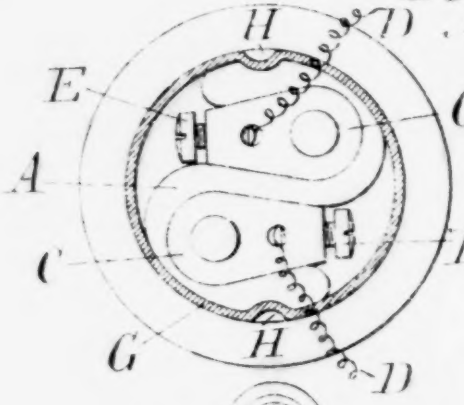


Fig 2.

Fig 3.

[This Drawing is a reproduction of the Original on a reduced scale.]

N° 6781 A.D. 1895

Date of Application, 2nd Apr., 1895—Accepted, 4th May, 1895

COMPLETE SPECIFICATION.

A Socket for Electric Glow Lamp.

We, THE EDISON & SWAN UNITED ELECTRIC LIGHT COMPANY LIMITED, of 36 and 37 Queen Street, Cannon Street, in the City of London, and CHARLES FARADAY PROCTOR, of Bedford Villas, Enfield, in the County of Middlesex, Electrical Engineer, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement :—

This invention relates to a compact and simple construction of socket to receive the base of an electric glow lamp as we shall describe referring to the accompanying drawings.

Fig. 1 is a vertical section Fig. 2 is a plan and Fig. 3 shews a plan and elevation of a modification.

On a base A of ceramic or other suitable insulating material are fixed by means of hollow screws B two metallic holders C to which the conducting wires D are clamped by screws E.

Within the hollow screws B are accommodated the springs and plungers F which make the contact with the pieces in the base of the lamp to which the leading in wires are connected. The base A is grooved along each side, and the casing G which holds it has its two opposite sides indented as shewn at H, so that the base A and the parts fixed on it are made to occupy the proper position relatively to the bayonet catch slot K by which the lamp base is held in the socket.

As shewn in Fig. 3 the plunger F is made from a star shaped piece of sheet metal having its rays bent to form a polygonal prism, the sides of which having certain elasticity and tending to spring outwards make good contact with the metal in which the plunger slides.

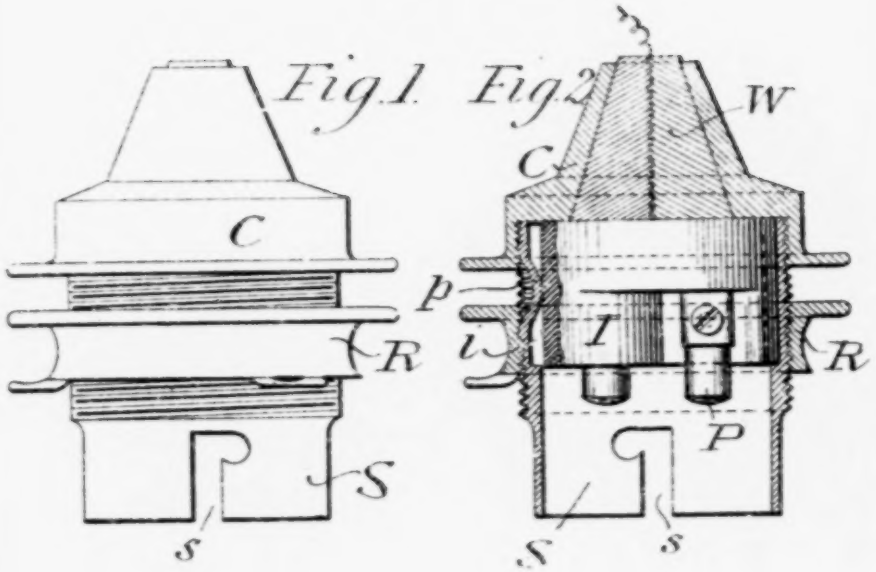
Having now particularly described and ascertained the nature of this invention and in what manner the same is to be performed, we declare that what we claim is:—

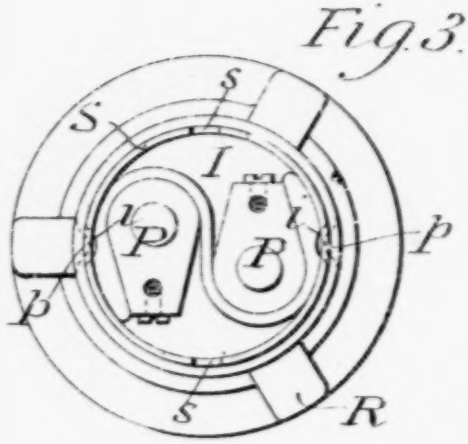
A socket for electric glow lamp consisting of a base of insulating material having two metal holders for the conducting wires and plungers secured to it by hollow screws in which the plungers and their springs are accommodated, substantially as described.

Dated this 2nd day of April 1895.

ABEL & IMRAY,
Agents for the Applicants.

London : Printed for Her Majesty's Stationery Office, by Darling & Son, Ltd.—1895





This Drawing is a reproduction of the Original on a reduced scale.

N° 11,714 A.D. 1897

Date of Application 'th May, 1897—Accepted, 4th Dec., 1897

COMI . SPECIFICATION.

"An Improvement in Holders for Electric Glow Lamps."

We HENRY CHARLES GOVER, Secretary of The Edison and Swan United Electric Light Company Limited, and CHARLES FARADAY PROCTOR, all of 36 Queen Street, Cannon Street, in the City of London, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement :—

This invention relates to the construction of a holder for an electric glow lamp as we shall describe referring to the accompanying drawings which shew a holder according to our invention to an enlarged scale.

Fig. 1 is an elevation ; Fig. 2 is a vertical section partly in elevation and Fig. 3 is a plan looking from below.

The insulator *i* with the contact plungers P is of the usual construction with a vertical groove *i* along each side. The socket S has as usual bayonet catch notches *s*, and it has a shoulder on which the insulator rests. The socket is externally screw threaded and has screwed upon it the cap C internally coned to receive the conical pieces W of wood or other insulating material between which the wires L are clamped. The two sides of the socket are indented so as to form internal protuberances *p* engaging in the grooves *i* of the insulator to prevent it from turning. A ring R is screwed on the socket to hold a globe or the like.

It will be seen that the holder described consists of only two parts the socket S and the cap C to retain the insulator and the wood cone, the construction being thus greatly simplified as compared with many holders now known. Obviously the cap C may be thinner than shewn being stamped from sheet metal.

Having now particularly described and ascertained the nature of this invention and in what manner the same is to be performed, we declare that what we claim is :—

A holder for an electric glow lamp constructed substantially as described and illustrated by the drawings.

Dated this 11th day of May 1897.

ABEL & IMRAY,
Agents for the Applicants.

Redhill : Printed for Her Majesty's Stationery Office, by Malcomson & Co., Ltd.—1897.

[*Price 8d.*]

This Drawing is a Reduction of the Original on a reduced scale.

FIG. 1

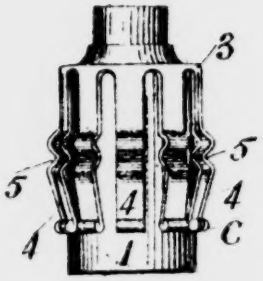


FIG. 3

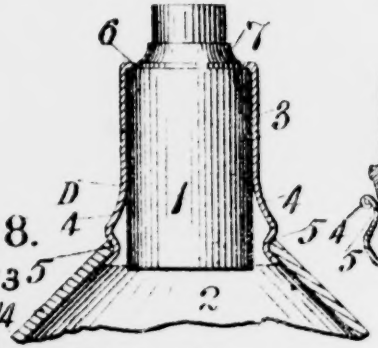


FIG. 4A

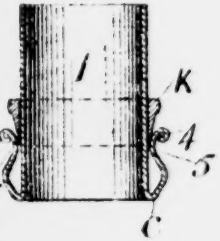


FIG. 4

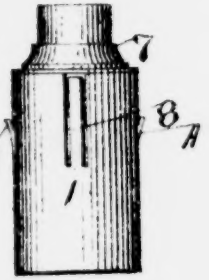


FIG. 8.

FIG. 2

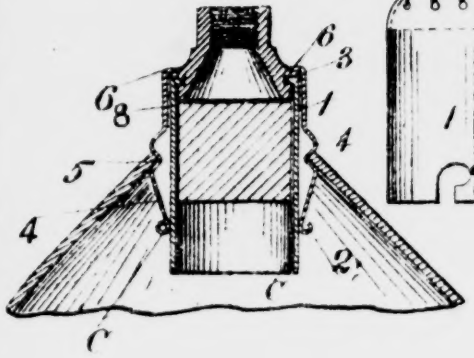
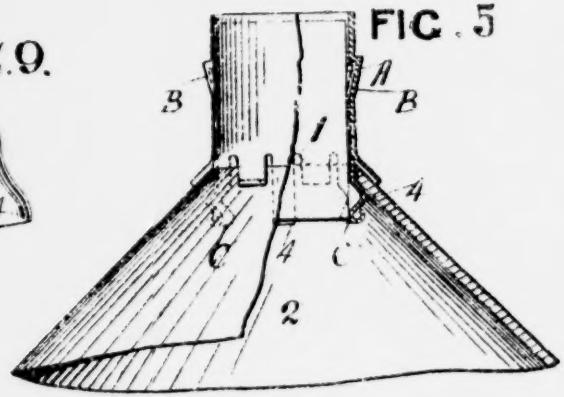


FIG. 6

FIG. 7

FIG. 9.

FIG. 5



(1 SHEET.)
A.D. 1896. MAY 15. N° 10,429.
KENNY'S Complete Specification.
Malby & Sons Photo-Lith.
Lithographers Printed by Dawson and Son Ltd.

N° 10,429 A.D. 1896

Date of Application, 15th May, 1896

Complete Specification Left, 10th Oct., 1896—Accepted, 21st Nov., 1896

JAN 2 1897 PATENT OFFICE

PROVISIONAL SPECIFICATION.

Improvements in Holders for Electric Glow Lamps.

I, THOMAS RICHARD DAVIS KENNY of 22, Thorn Terrace, Thorncliffe Road, Bradford, in the County of York, Electrical Engineer, do hereby declare the nature of this invention to be as follows:—

The object of this invention is to simplify and cheapen the construction of holders for electric glow lamps, and at the same time to make them more convenient in use.

Lamp holders as ordinarily constructed are usually made in three parts (in addition to the insulator) and if a lamp shade is used a fourth part is necessary for holding same in position.

By my improvement I form the holder in one piece forming the outside of same with an even surface. In order to attach a shade to my improved holder, I stamp or form in one piece in any convenient manner a tube or ring, consisting of a number of spring tongues. The parts of the spring tongues which engage with the shade are bent inwards to form a series of hollows in which the shade top rests. The opening in the top of the said shade may be easily passed over the said spring tongues and on forcing the said tube over the lamp holder, the spring tongues are expanded radially and grip the holder and shade firmly, securing the latter in position.

If desired I may arrange the spring tongues in such a manner that only some of them pass to the inside of the shade, the remainder being on the outside, whereby the shade is held between the two sets of tongues.

The shade holder may be secured on the lamp holder in various ways. One method, when the holder slides on from the top, is to form an inside flange which rests on the top of the lamp holder; or the shade holder may be screwed on to the lamp holder or affixed by a bayonet joint or spring catch.

A modification of my improvement may be made by forming the spring tongues out of and forming part of the lamp holder and bent and corrugated in such a manner that on forcing the shade over the spring tongues, the latter will grip and hold the shade with their outward pressure. If necessary the shade can be made more secure by means of a sliding ring which passes between the lamp holder and the spring tongues, locking the latter and making it impossible for the shade to come off before the locking device is withdrawn.

The above description refers more particularly to pendant lamps. I find in practice it is more convenient for the simple wiring of wall brackets and the like to construct the lamp holder so that the lower portion or tube may be removed from the top portion which connects to the bracket. I accomplish this and dispense with the usual union ring by forming the top with an external diameter suitable to engage with the internal diameter of the upper part of the tube portion, which latter portion I form with spring tongues, some of which have their extremities bent inwards to form projections at the top of the tube. These enter recesses in the top portion and connect the two portions together, but on turning the tube portion a small fraction of a revolution the projections leave the recesses, allowing the tube to be withdrawn.

[*Price 8d.*]

Fig. 7 is a plan view of the tube portion of the lamp holder—being the lower part of Fig. 2.

Figs. 8 and 9 are views in elevation of the improved cord grip.

According to this invention, I form the holder 1 so that the outside of same has an even and straight surface. In order to attach a shade or reflector 2 to my improved holder 1, I stamp or form in one piece a tube or ring 3 having a number of spring tongues 4. The parts of the spring tongues 4 which engage with the shade or reflector 2 are bent inwards to form a series of hollows 5 in which the internal edge of the hole in the top of the shade rests. The opening or hole in the top of the said shade 2 may be easily passed over the said spring tongues 4, and on forcing the said tube 3 over the lamp holder 1, the spring tongues 4 are expanded radially and grip the holder 1, and hold the shade 2 firmly and securely in position. In Figs. 1, 2, and 5, the expanding pressure of the lamp holder 1 is exerted at the point C, and in Fig. 3 at the point D.

If desired, the spring tongues 4 may be arranged in such a manner that only alternate ones, or only some of them pass to and engage with the inside of the shade 2, the remainder being on the outside, whereby the shade is held between the two sets of tongues. In this case the outer tongues may be short and rigid, those at the inside being longer and more flexible, so that the shade can be easily sprung over them before the shade carrier is placed on the lamp holder (see Fig. 5).

The shade holder 3 may be secured on the lamp holder 1 in various ways. One method, when the holder 3 slides on from the top (see Figs. 1, 2, and 3), is to form an inside flange 6 which rests on the top of the lamp holder 1 (see Figs. 2 and 3): or the shade holder 3 may be screwed on to the lamp holder 1: or affixed by a bayonet joint or spring catch (see Figs. 4 and 5) wherein the shade carrier is slid on from the bottom of the lamp holder, and the spring tongue projections A in the latter, spring into the recesses B in the shade carrier, and so hold the latter in position. To remove the shade carrier, it is first pushed up a short distance, then partly turned round and drawn off.

A modification of my improvement may be made by forming the spring tongues 4 out of and forming a part of the lamp holder 1, and bent and corrugated in such a manner that on forcing the shade 2 over the spring tongues 4, the latter will grip and hold the shade 2 with their outward pressure, see Fig. 4A which shews the lower portion of such a lamp holder. If necessary, the shade 2 can be made more secure by means of a sliding ring K which passes between the lamp holder 1 and the spring tongues 4, forcing the latter outwards and locking them, and making it impossible for the shade 2 to come off before the locking device or ring K is withdrawn.

Lamp holders to be used with pendant lamps, I prefer to form with the outer shell or socket made in one piece, and when shades are used, they are attached as hereinbefore described (see Fig. 3).

I find in practice it is more convenient for the simple wiring of wall brackets and the like, to construct the lamp holder 1 so that the lower portion or tube may be removed from the top portion which connects to the bracket (see Figs. 2, 4, 6, and 7). I accomplish this and dispense with the usual union ring by forming the top 7 with an external diameter of such size as to engage with the internal diameter of the upper part of the tube portion 1, which latter portion I form with spring tongues 8, one or more of which have their extremities bent inwards to form projections 9 (see Fig. 7) at the top of the tube 1. These projections 9 enter recesses 10 in the top portion 7 and connect the two portions 1 and 7 together, but on turning the tube portion 1 a fraction of a revolution, the projections 9 leave the recesses 10, allowing the tube 1 to be withdrawn. A small inclined portion 11 in the top 7 allows the projections 9 to be slided up same, so as to expand them previous to their springing into the recesses 10.

If desired, I can form these spring tongues in the upper portion 7 of the holder 1, instead of in the tube 3 as just described—*i.e.*, the positions may be reversed.

In either case, as a means of further securing the spring tongues 8 in position,

tongues or catches in combination with a shade carrier which both holds the shade and locks the said tongues or catches, as herein described, and substantially as illustrated by Figs. 2, 4, and 5 of the annexed drawings.

Dated this 8th day of October 1896.

THOMAS RICHARD DAVIS KENNY,
By his Agents, Brierley & Howard,
Penny Bank Chambers, Halifax.

London : Printed for Her Majesty's Stationery Office, by Darling & Son, Ltd.—1896

YOST
Key Sockets

The YOST
ELECTRIC
MFG. CO.
TOLEDO, OHIO.

SEE BACK COVER.

Use the Yost Socket
...And you save money,
because you save labor.

Invaluable to Contractors.

No Stripping of screw threads.

No screw drivers needed.

Parts Interchangeable.

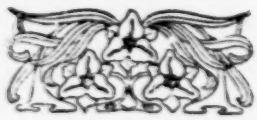
Thoroughly insulated.

Strictly up to standard.

We invite investigation.

Our patents cover construction.

We protect our customers.



INTRODUCTION.

THE following specifications of the "Yost" Key Socket will serve to introduce them to the trade generally, and to introduce The Yost Electric Manufacturing Co. as the manufacturers of them.

We have been in the manufacturing business for many years, and thoroughly understand the competition we must meet. How necessary it is that we produce something as good or better than is now on the market, if we expect to obtain our share of patronage. We also recognize the fact that prompt service, honest and fair dealings, as well as quality, are essential to the success of our goods if we expect the support of the public.

We solicit your consideration for them, and promise you will not find us wanting, but always ready to extend any and all courtesies due our patrons. While we appreciate that there are many key sockets on the market that have met the approval and requirements of the trade because they have been well made, well designed, and have good material, yet we believe there is always room for improvement and that purchasers of electrical supplies are always looking for the best, that which gives the best service, which is the most economical and the most simple and convenient because of its simplicity to use.

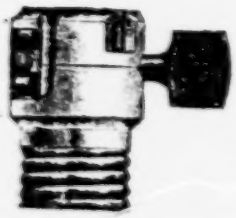
The "Yost" Key Socket, we believe, should receive your serious consideration and investigation if you are looking for the best; for the best is always the cheapest in the end. From practical tests and experiments made, we are convinced that we are offering the users of sockets something reliable and new; combining durability, simplicity and neatness of design, that recommends itself by the practical features it possesses for convenience in manufacturing or manipulating, strength, design, mechanical simplicity and durability. We believe it will receive the endorsement of all electricians and mechanics.

The mechanism is entirely enclosed in a porcelain casing giving the necessary insulation by thickness of the porcelain between the mechanical parts, and making it as nearly dust proof as possible.

Besides, the fibre lining or insulator, covering the shell between the porcelain and shell is impervious to dampness as manufactured under our patents, which obviates much difficulty in removing this fibre when found necessary or desirable to re-finish sockets.

No. 1.

No. 2.



No. 3.

the key sockets. By a careful examination of this locking device it can readily be appreciated for its effectiveness, reliability, durability, economy in use, by the saving of labor and protection against the "would-be mechanic."

We believe this invention will be recognized as one of the most effective, economical and labor saving devices in use and that it will recommend itself to electricians generally.

THE YOST KEY SOCKET.

No. 4.

Cut No. 4 shows the socket after it has been assembled and locked.

The bayonet slot with pin at the extreme closed end of slot indicates that the device is locked. When turned so as to bring the pin to the open end of the slot indicates that it is open and can be separated.

To adjust to place.—Put the cap on the shell with the open end of the slot above the pin. Push down on the cap until the pin strikes in the top of slot, then turn to right, until the pins snap into place.

To remove.—Turn to left until pin is above the open part of slot, and remove by raising cap upward.

THE YOST KEY SOCKET AND ITS IMPROVED LOCKING DEVICE.

The cuts 1, 2 and 3 show the cap, interior mechanism and the shell after it has been assembled.

The cap and shell give a clear representation of our new locking device which secures the cap and shell together as one, without the aid of bands or screws.

The bayonet slot in the cap and the headed pin in the shell indicate when locked or unlocked so that it can be operated at once and without difficulty. In fact the cap and shell can be separated and the socket interior removed and replaced many times with this socket while taking the screws out of the cap by the old method. Besides, it is much more convenient as it is not necessary to carry screws and screw driver for the purpose and there are no screws to lose or strip and no danger of the inexperienced trifling or meddling with what should be the work of an experienced electrician. This device is strong and positive and when locked can not be separated by a vertical pull or weight. It will bear the heaviest shade or globe and will permit of adjusting the lamp without the slighest danger of unlocking; yet can be readily removed if separated by the proper means.

It has been examined and approved by the best of electricians who are practical users of

YOST KEY SOCKET.

No. 5

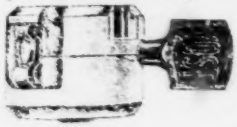
Cut No. 5 shows the cap and shell and its mechanical construction. How the slots are located which together with explanation of cut No. 4 it can readily be appreciated in detail as to its manipulation and simplicity.

One of the most thoroughly practical and novel features in socket construction is our shell and cap locking device. Yet this is by no means all that we have to offer to recommend our socket for consideration.

The interior mechanism is simplicity itself. There are but few parts as compared to other sockets.

This is especially true of our keyless socket. Besides the porcelain is so separated

that the key and other parts can be replaced if repairs become necessary.

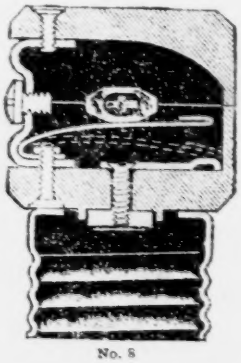


No. 6.

No. 7.

Cuts 6 and 7 show the construction of porcelain and key, and the long firm bearing of the key which holds it rigidly in place.

Our cam and mechanism of the socket is so arranged and devised that a quick and positive break is made of over ¾ of an inch. The current is carried by ample strong brass posts, fully up to the requirements and to spare.



No. 8

8

YOST KEY SOCKET.

Features of Merit.

1. Our new method of fastening the cap to shell without screws or arms, thereby economizing in labor and preventing the inexperienced from tampering with wiring.
2. The fibre insulator impervious to dampness.
3. More than ¾ of an inch quick break.
4. Easy and positive action.
5. Perfectly enclosed mechanism.
6. Simple, durable and economical.
7. The best porcelain obtainable from imported clay.
8. The greatest current carrying capacity.
9. Our socket is patented and up-to-date in every respect, and will meet the demands and requirements of all electricians on the features we claim for it, viz: Simplicity, the greatest carrying capacity and longest lived. Therefore, durable. Besides, it is well made and with our new device can be economically used.

Respectfully submitted,

THE YOST ELECTRIC MFG. CO.,
Box 415, Toledo, Ohio.

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This cut will give a fair idea of the mechanical construction of the socket, as it shows all of the working parts, how the contact is made, and the great distance between contact points when broken.

These parts are strong and durable, and the fewness of parts readily appreciated. Relieve the socket as shown in the above cut of the key, cam and spring, and you have a keyless socket that is simplicity itself.

Our socket is fully guaranteed and was constructed by us to meet all of the requirements of the trade, and from tests we have had made in our laboratory, under lock and key and by outside electricians, they advise us that our socket will stand the test as to measurements, insulation, etc., and as to makes and breaks maximum requirements, of which is six thousand (6000) at the rates of three times per minute, when carrying a load of one (1) Ampere at 220 volts. They say our socket will far surpass these requirements, and we solicit your consideration on this feature or on the durability, life, simplicity of construction mechanically of our socket.

Our sockets are well made and well finished. Parts are interchangeable as they are made up by automatic machinery of the latest pattern and improvements.

9

Northern Electrical Company

An Equity
Patent No. 743,206

ELECTRICAL SUPPLIES OF EVERY DESCRIPTION

Agents for Yost Sockets

Zelzer Electric Co
Reps
U.S.A.

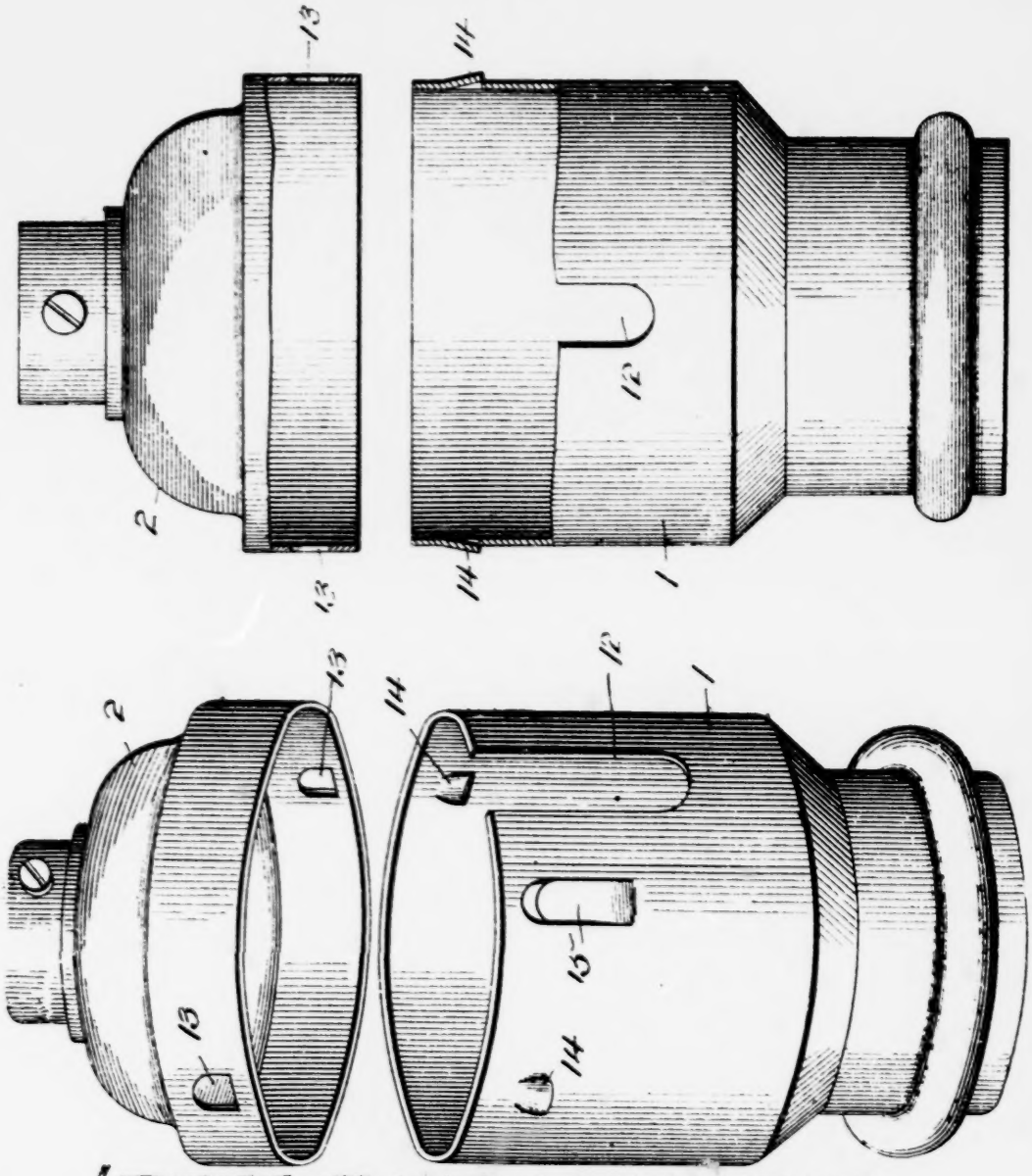
E. H. Freeman Electric Co
Reps

20 Third Avenue West
DULUTH, MINN.

Weber Electric Co.,
Complainant.
vs.
E.H.Freeman Electric Co.,
Defendant.

In Equity

On Patent No.743,206.



"DEFENDANT'S EXHIBIT
ILLUSTRATIVE DRAWING OF
WEBER PATENT 743206."

3/10/10

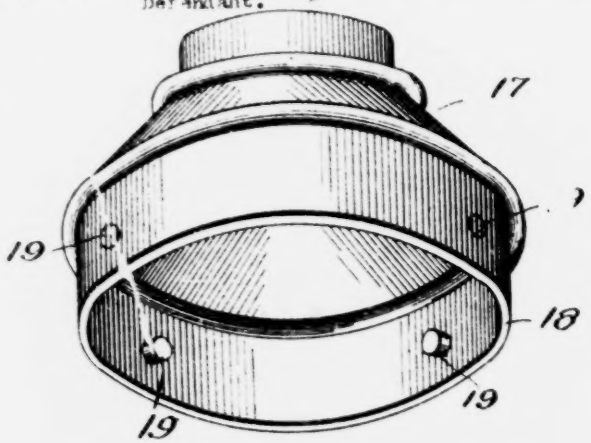
Charles E. Rigdon
Special Examiner

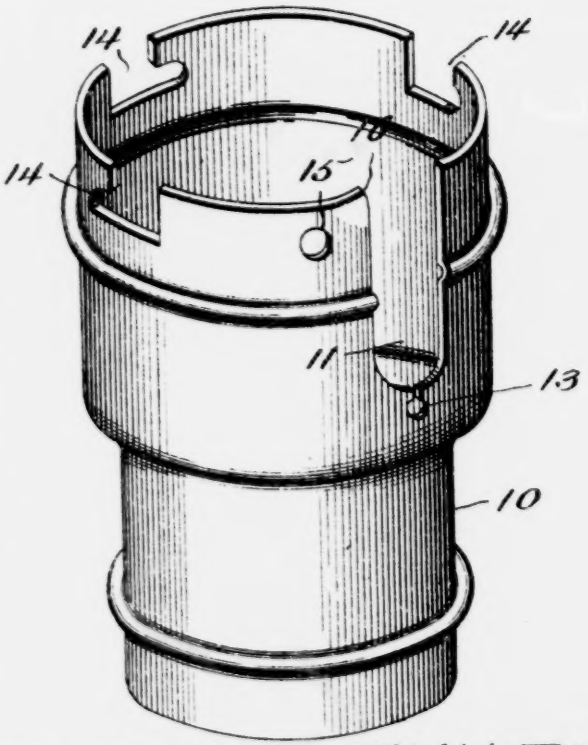
United States Circuit Court
District of New Jersey.

Weber Electric Company
Complainant.
vs.
E.H.Freeman Electric Co.
Defendant.

In Equity

On Patent No. 743,206.





'DEFENDANT'S EXHIBIT'
ILLUSTRATIVE DRAWING OF
FREEMAN PATENT 927344"

3/10/10

Charles E. Purdon
Special Examiner

United States Circuit Court
District of New Jersey

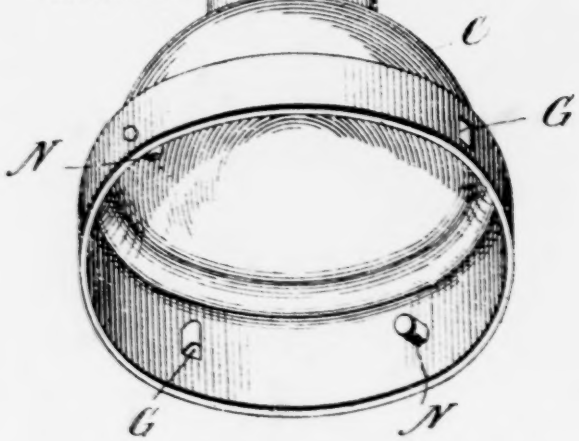
Wagner Electric Company,
Complainant.

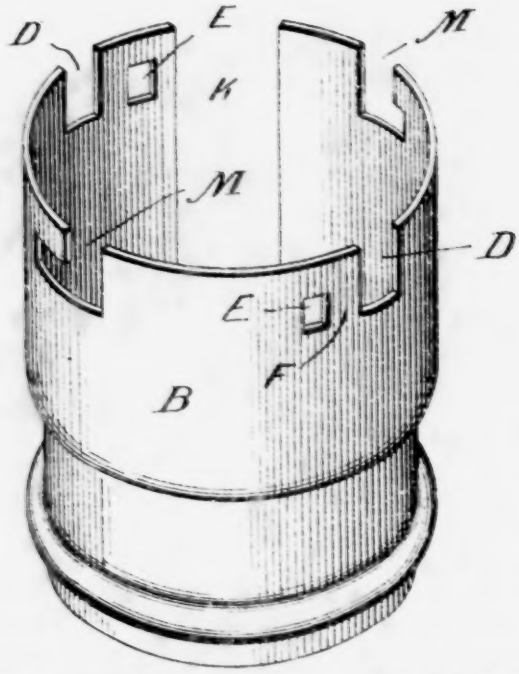
vs.

E.H.Freeman Electric
Company,
Defendant.

In Equity

On Patent No. 743,206





"DEFENDANT'S EXHIBIT
ILLUSTRATIVE DRAWING OF
KENNEY PATENT 712686"

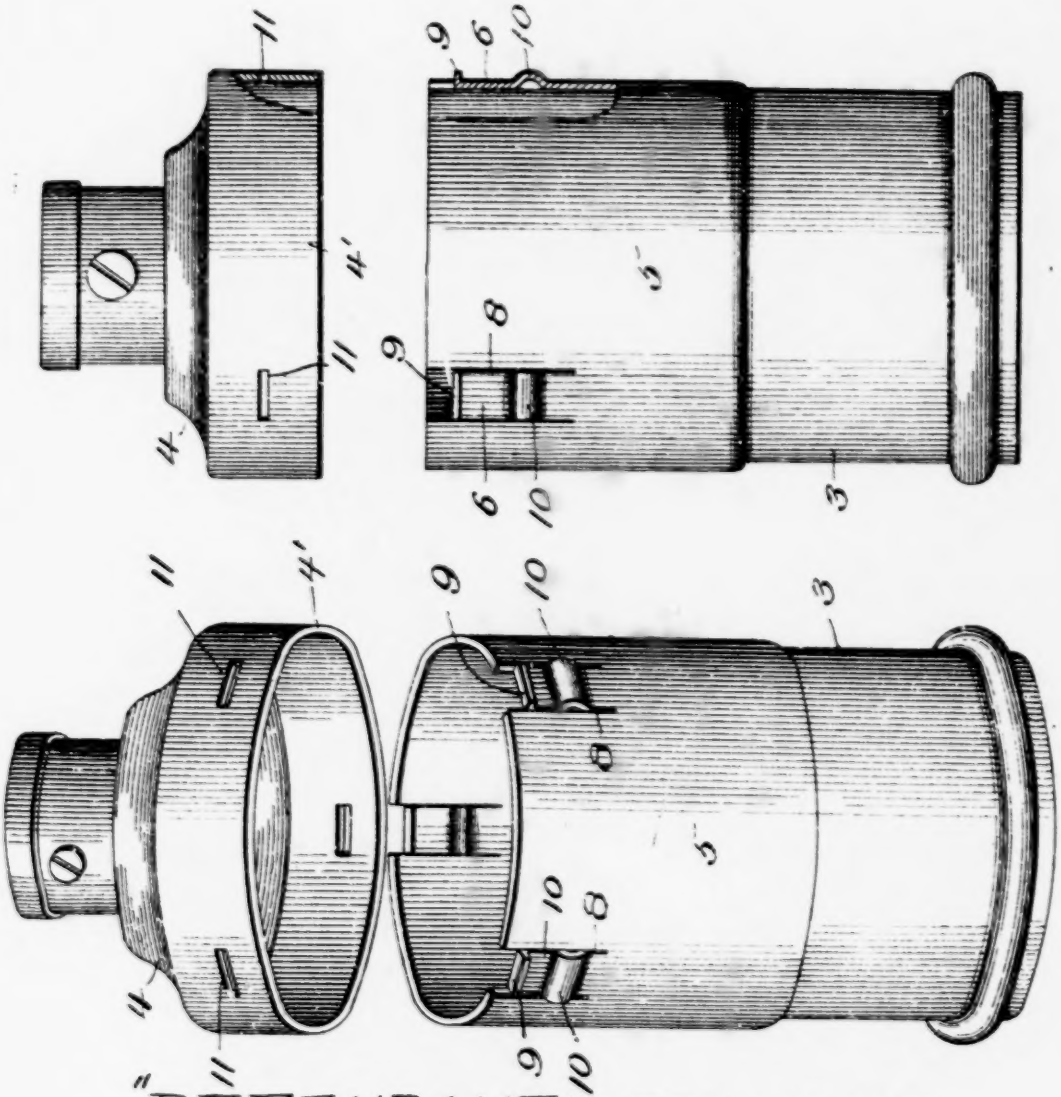
3/10/10

Charles E. Riordan
Special Examiner

United States District Court
District of New Jersey
Weber Electric Company
Complainant.
vs.
E. H. Freeman Electric Co.
Defendant.

In Equity

On Patent No. 743,206.



"DEFENDANT'S EXHIBIT:
ILLUSTRATIVE DRAWING OF
OETTING PATENT 642825"

3/10/10

Charles E. Gordon
Special Examiner

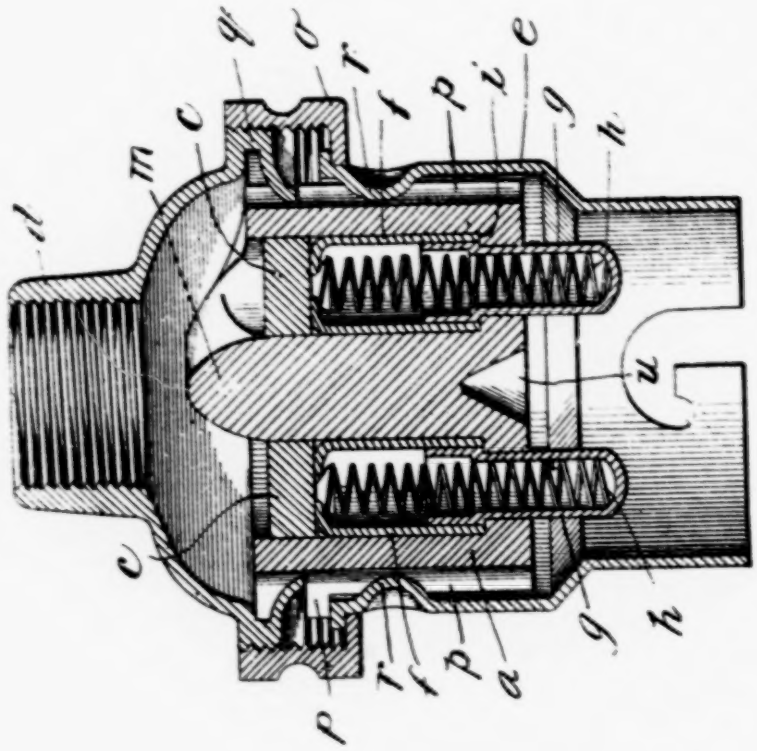
United States Circuit Court

District of New Jersey

Weber Electric Company, Complainant.
vs
E. W. Freeman Electric Co., Defendant.

In Equity

On Patent No. 743,206.



"DEFENDANT'S EXHIBIT

ILLUSTRATIVE DRAWING OF

AIX and GENEST

GERMAN PATENT 106898

3/10/10

Charles E. Purdon
Special Examiner

681 DEFENDANT'S EXHIBIT ENGLISH TRANSLATION OF GERMAN PATENT No. 106,898.

(Issued November 23, 1899.)

Aktiengesellschaft Mix & Genest in Berlin.

Swan Socket.

Patented in the German Empire from April 9, 1899.

Present invention is intended to pursue the purpose of giving, for higher working tensions, in case of electric-light plants, to the interior construction of Swan sockets such *as* arrangement, that thereby there is attained an improved insulation as compared with the forms hitherto in use.

In the beginning, in the case of incandescent lamps, the circuit-closing pins were applied with the slide pieces, free on the front face of the socket stone (porcelain) turned towards the lamp; later on, partition walls were placed between the connecting pieces, or between the connecting pieces and the socket casing; a further improvement consisted in this, that a second insulating body was laid around in the connecting as well as the contact closing pieces, which were all arranged on the side of the socket stone lying opposite the lamp, from which (insulating bodies) the contact-closing pieces then looked out.

682 The last arrangement requires, however, a very bothersome and expensive construction, which in addition interferes with the mounting and thereby renders the electric-light plant still more expensive. These objections it is intended to remove by the present invention by this means, that only the two-contact closing pieces are laid on one side of the stone, while all the connecting pieces are on the other side.

In the annexed drawing, Fig. 1, shows the new socket in vertical section; Figs. 2, 3 and 4 show the socket stone with its metal parts in bottom view, in elevation, as well as in top view, while Figs. 5 and 6 show the stone by itself in top view and elevation; Figs. 7, 8 and 9 show other details.

On the front side of the socket stone *a* turned away from the incandescent lamp the two connecting pieces *c* are screwed in (Figs. 2 to 4) by deeply-sunk screws *b*. Close below the latter are borne resiliently the two casings *f* in perforations of the stone, thereby forming a good contact. The resilience is brought about by this, that the end of the casing lying under the connecting pieces *c* possesses flaps *f'* bent outwards (Figs. 7 and 8), which are bent inwards again by the connecting pieces when the latter are screwed fast. Into each of the casings there is stuck a second casing *g* (Fig. 9), which is pressed by a spring *h* against a projection *i* (Figs. 5 and 6) of the socket stone and forms the contact with the lamp. The springs *h* moreover press the casings *f* against the connecting pieces *c*, in order

still more to assure the contact between the latter and at the
683 same time to take up a part of the conduction. The flaps *f'* on the casings *f* are moreover a means for equalizing possible differences in the height of the casings themselves, as well as in the depth of their perforations in the socket stone.

The connecting pieces *e* possess holes *l* bored vertically for connecting the conductors by means of the vertical screws *k*. In order to enlarge the insulating surfaces between the connecting pieces *e* there is applied the S-shaped bar *m* on the socket stone; at the same time this bar serves to prevent the connection of the two connecting pieces with the socket casing *c*, as well as the contact of the two connecting conductors. To prevent the current passing over between the two casings *g* the socket stone has received between these a deep notching *n* at the side turned towards the lamp.

By screwing on the overthrow ring *o* on the lid *d*, the latter is held to the casing *c* and the stone *a*. In order to secure the latter against turning, it is provided with two oppositely placed grooves *p*, in which there take hold projections (noses) *q* of the lid *d*, as well as noses *r* of the casing *c*.

By means of this, that only the casings *g* lie on the lamp side of the socket stone, while the parts serving for connection between these casings and the conductors are all placed on the opposite side of the stone, as well as by the fact that the metal parts of opposite polarity are separated by comparatively large insulating surfaces, this socket is particularly adapted for use for high operating tensions.

684 To give the casing *g* a guide on the parts possessing smaller diameter, it is advisable to lay a disc (washer) between the casings *f* and the projection *i* of the socket stone, through which only the thinner part of the casing *g* passes. Instead of the casing *f* provided with flaps *f'* there may also be used a casing closed at one end, which is bent over the spring *h* and casing *g* and pressed with the latter by the connecting piece *e* downward against the projection *i*. Furthermore instead of the casing *f* we can use a piece of tubing smoothed inside and out. The latter may also have a perforated bottom, through which only the thinner part of the casing *g* passes. To obtain a solid connection between the connecting pieces *e* and the casing *f* the same may be soldered.

Claim.

Swan socket, in which only the contact pieces for the lamp pass through the surfaces of the stone turned towards the lamp, characterized by casings (*f*) smooth on the inside, which are clamped fast between stone and connecting plates and provided with spring flaps (*f'*) for equalizing the differences in the perforation of the insulating stone taking up the casing, for the purpose of forming the current path (passage) from the conduction connecting plate (*e*) to the contact piece (*g*).

A. WEBER, Sr., A. WEBER, Jr. & J. WEBER.

INCANDESCENT ELECTRIC LAMP SOCKET.

APPLICATION FILED JULY 19, 1904.

916,812.

Patented Mar. 30,

2 SHEETS—SH

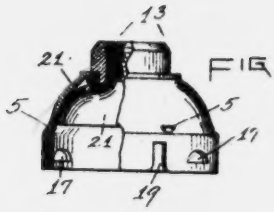


FIG 8

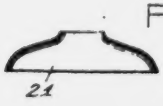


FIG 12

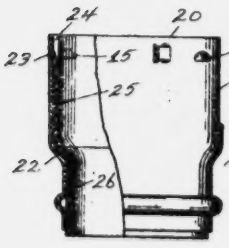


FIG 9

FIG

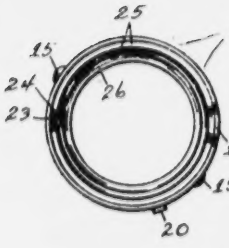
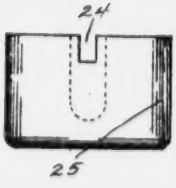


FIG 10



FIG

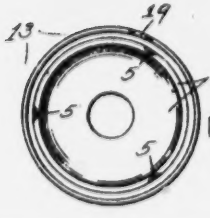


FIG 11

FIG

FIG 16

693 *Memorandum.*

(Filed November 6, 1918.)

Suit in equity charging infringement of United States patent No. 743,206 for improvements in incandescent-electric-lamp sockets.

Frank C. Curtis, for complainant.
Robert H. Parkinson and (David P. Wolhaupter of counsel), for defendant.

DAVIS, *District Judge:*

This suit has been instituted for the infringement of United States patent No. 743,206 issued to August Weber, November 3, 1903, and by him assigned to the complainant. The patent has 5 claims, the first 4 only of which are alleged to have been infringed by the defendant and are as follows:

"1. In a device of the class described, the combination with a pair of members comprising a sheet-metal sleeve having a slotted end and introverted tongues, and a cap adapted to telescopically receive the slotted end of said sleeve, said members having interengaging parts adapted to automatically interlock with a snap action when telescopically applied to each other, and to be released by compression of said sleeve; of an insulating-base for electrical fittings loosely inclosed within said sleeve in engagement with said tongues, substantially as described.

2. In a device of the class described, the combination with a base of insulating material having a peripheral recess; and an incandescent-lamp support mounted thereon; of an inclosing case therefor comprising in part a sheet-metal sleeve having a portion of
694 its wall introverted to occupy said base-recess, substantially as described.

3. In a device of the class described, the combination with a base of insulating material having a peripheral recess; and a screw-socket fixedly mounted thereon; of an inclosing case therefor comprising in part a sheet-metal sleeve having a portion of its wall introverted to occupy said base-recess and prevent a relative rotative movement between said sleeve, base and socket, substantially as described.

4. In a device of the class described, and in combination a pair of members comprising a sheet-metal sleeve having a slotted end, and a sheet-metal cap adapted to telescopically receive the slotted end of said sleeve, one of said members being provided with a recess, and the other having a correspondingly-located transverse slit and the wall on one side thereof displaced to form a projection beveled or inclined toward said recessed member and terminating abruptly at said slit, whereby said members are adapted to automatic-

ally interlock with a snap action when telescopically applied to each other, and to be released by manual compression of said slotted sleeve, substantially as described."

As Judge Ray, in the case of Weber Electric Co. v. National Gas & Electric Fixture Co., 204 Fed. 79, said:

"Claim 1 calls for a pair of members comprising (1) a sheet-metal sleeve having a slotted end and introverted tongues, and (2) a cap adapted to telescopically receive the slotted end of said sleeve, said members having intereng[illegible]aging parts adapted to automatically interlock with a snap action when telescopically applied to each other, and to be released by compression of said sleeve; also in combination an insulating base for electrical fittings loosely inclosed
695 within said sleeve in engagement with said tongues, all substantially as described.

Claim 2 calls for (1) a base of insulating material having a peripheral recess, (2) an incandescent lamp support mounted thereon, and (3) an inclosing case therefor comprising, in part, a sheet metal sleeve having a portion of its wall introverted to occupy said base-recess, all substantially as described.

Claim 3 calls for (1) the same base as claim 1, (2) a screw socket fixedly mounted thereon, and (3) an inclosing case therefor comprising in part a sheet-metal sleeve having a portion of its wall introverted to occupy said peripheral recess of the base and prevent a relative rotative movement between said sleeve, base, and socket, all substantially as described.

Claim 4 calls for (1) a pair of members comprising a sheet-metal sleeve having a slotted end and a sheet-metal cap to telescopically receive the slotted end of said sleeve, one of said members being provided with a recess, and the other having a correspondingly located transverse slit and the wall on one side thereof displaced to form a projection beveled or inclined toward said recessed member and terminating abruptly at said slit, whereby said members are adapted to automatically interlock with a snap action when telescopically applied to each other and to be released by manual compression of said slotted sleeve, all substantially as described."

The patent in question has been decreed to be valid in the Southern District of New York, in the case of the Weber Electric Co. v. National Gas & Electric Fixture Co., supra, and affirmed by the Circuit Court of Appeals of the Second Circuit in 212 Fed. 948; in the District of Massachusetts in the case of the Weber Electric Co. v. Wirt Manufacturing Co., 226 Fed. 481, and in the District
696 of New Jersey, in the case of the Weber Electric Co. v. Union Electric Co., 226 Fed. 482. Judge Ray in the Southern District of New York fully considered the Fowler patent, the Bray patent, the Oetting patent, the Kenney patents and the Paiste patent cited here against the validity of the Weber patent, and found the Weber patent to be valid. Judge Rellstab, of this court, re-examined the said patents, together with the Wirt patent, and reached the same conclusion. In addition to these patents, the defendant here relies

upon the Benjamin patent, the Mix and Genest patent, the Knowles patent, the Edison & Swan patent and the Gover patent. I find myself absolutely in accord with Judges Rellstab, Ray and Dodge as to the validity of the Weber patent as affected by the prior art in the patents cited and considered by them, and in the patents cited in this case which were not cited and were not considered in the previous cases, there is nothing, in my opinion, which affects their decision as to the validity of claims 1 and 4.

The essence and genius of the Weber patent consist in certain devices, interengaging parts on the case-members which automatically interlock with a snap action when the said case members are telescopically assembled. Weber in the specifications says:

"The principal object of my invention is to provide simple and effective automatically-locking connection between the sleeve and cap of an incandescent-electric-lamp socket."

"My invention is applicable to various telescopically connecting members, but is especially adapted for use in the telescopically connecting cap and sleeve members of incandescent-electric-lamp sockets."

"In carrying out the principal feature of the invention the inner telescoping member is made compressible, and the telescopically-connecting members are provided in the manner hereinafter described, with interengaging parts adapted to automatically
697 interlock with a snap action when telescopically applied to each other and to be released by compression of said inner member."

The immediate use and success of the patent embracing these principal objects are evidence of its invention, and of its superiority over anything in the prior art at that time. As Judge Rellstab said:

"Weber's structure did not enter an art already well filled with devices accomplishing like results. His conception carried him well in advance of any competitor in that field at the date of his invention and the mechanism embodying his conception has largely displaced other makes of electric lamp socket casings."

Judge Ray said in the National Gas case, supra:

"It cannot, under the evidence in these cases, be successfully disputed that these structures have largely displaced those of prior art. They present new and novel features in this art, have proved a commercial success and are less expensive in the construction and also safer. They are easier of assembling. Substantially all the sockets now on the market have a snap-shell construction, and the evidence establishes that at least 85 per cent of such sockets are made by the Webers and their licensees."

"Defendant's keyless socket," as does the Weber keyless socket under claim 1, calls for a pair of members comprising (1) a sheet metal sleeve having a slotted end and introverted tongues, and (2) a cap adapted to telescopically receive the slotted end of said sleeve, said members having interengaging parts adapted to automatically

interlock with a snap action when applied to each other, and to be released by compression of said sleeve; also in combination an insulating base for electrical fittings loosely inclosed within said sleeve in engagement with said tongues. Defendant's key socket is like the keyless in all respects, except the key renders an intro-
698 verted tongue unnecessary. There is no doubt that in these respects the sockets of the defendant conform to the requirements of claim 1 of Weber.

The defendant's sockets, both the key and keyless, have a pair of members comprising a sheet-metal sleeve having a slotted end and a sheet-metal cap to telescopically receive the slotted end of said sleeve, one of said members, the sleeve, being provided with recesses and the other, the cap, with corresponding projections or studs, mechanical equivalents of the projections in the Weber, whereby said members are adapted to automatically interlock when applied to each other telescopically with a slight rotative movement and to be released by manual compression of said slotted sleeve. The bevel is not on the projection as in Weber but is on the corner or right angle formed by the periphery and slot of the sleeve adjacent to the recess or hole adapted to receive one of the studs, its interengaging part, of the cap. The studs are mechanical equivalents of the projections and the hole and slots of the recesses in the Weber patent. There are 4 studs on the inner side of the cap in the defendant's socket. There are also 4 recesses into which these projections enter, one of them is the hole already referred to, the other 3 are open end slots which receive the corresponding studs upon the cap and which automatically interlock with a snap action when the two are applied to each other telescopically with a slight rotative movement. It makes no difference, as Judge Ray pointed out, whether these corresponding interengaging parts, projections and recesses, are upon the sleeve member or the cap member of the casing.

Defendant, however, contends that it does not infringe because claims 1 and 4 of Weber provide that these interengaging parts automatically interlock with a snap action when the case-members are telescopically applied to each other, whereas the defendant's sockets require a rotary motion in addition to the telescopic in order
699 to interlock. Thus, it is claimed, distinguishes the operation of the defendant's sockets from the provisions of the Weber patent. This distinction is justified, the defendant contends by the statement of Judge Rellstab in the Union Electric Company case, supra, that:

"In Kenney (U. S.) the shell was provided with open-end slots and slots adjacent thereto. Radial inwardly projecting studs on the cap were adapted to enter these open-end slots in the shell, and then by a rotary movement, after the telescopic application was completed, to spring into the adjacent slots. In combination with these slots and studs the shell was provided with bayonet slots, intermediate of the others referred to, and the cap was provided with additional radial projections, intermediate of the studs referred to, which entered recesses within the periphery of the socket base or insulator

block to lock the same in position. No interlocking of the Kenney members could be affected automatically by telescopic pressure. A rotary movement of the members against each other was absolutely necessary to put the radial projections and the intermediate lugs into position to effect a locking engagement."

Judge Rellstab, in the above quotation, was describing the Kenney patent and particularly its method of operation. Whether or not under the particular facts of this case this additional rotary movement, or the telescopic movement with a rotary component would be sufficient to differentiate the patents so that the defendant may escape the charge of infringement is another matter and is not justified as a conclusion from Judge Rellstab's description of the Kenney patent. There were other essential differences distinguishing the Weber patent from the Kenney, one of which was the abruptness of the termination of the projections which make the interlocking firm and secure as compared with the abruptness of Kenney's studs
700 G and which have no abrupt termination, but which abruptness the interengaging parts on defendant's sockets have. Weber, however, did not specifically confine his claim to a construction, the parts of which must be assembled by a straight, direct telescopic movement. In fact, in his patent, No. 743,206 without the guard or guide as in later patents, it is difficult to bring together the case-members with such accuracy as to make a slight rotative movement unnecessary before the interlocking takes place. In order to sustain the contention of the defendant, a telescopic application of the case-members to each other must be made with such accuracy as to prevent the slightest rotative movement before the interlocking of the interengaging parts. While Weber did not in terms thus limit the movement, yet the defendant contends that the use of the words "telescopically applied to each other" necessarily imposes such limitation and excludes the slightest rotative movement before interlocking is effected. The verb "telescope," according to the Standard Dictionary, means:

"To drive together so that one slides into another like the sections of a spyglass or small telescope; to crush by driving together into or upon; to move like the sliding portions of a spyglass in closing."

Often slight rotative movements are necessarily employed in bringing together sections of a spyglass. The limitation here contended for, therefore, is not necessarily imposed or implied in the words used by Weber, nor by experience in actually doing the thing, and Weber did not in terms so limit the movement. In any case, the term "telescopically" should not be so limited, for by so doing justice would seem to be defeated.

The defendant has appropriated all the elements of claims 1 and 4 of the Weber patent, enjoyed the fruits thereof and seeks to escape the consequences of such appropriation by the single studied distinction of a slight rotative movement in bringing together the
701 cap and sleeve. This, in my opinion, cannot be done and the defendant is guilty of infringement of said two claims.

If claims 2 and 3 are valid, defendant has likewise infringed these claims. Their validity seems to me to depend upon whether or not the introverted portion of the wall of the sheet-metal sleeve is limited to a cut edge tongue as exhibited in 15 of figure 2 of the Weber patent. If so limited, claims 2 and 3 are valid and are infringed. If not so limited, and if an indentation in the wall portion of the sleeve accomplishes the same thing as the introverted tongue called for by claim 1, preventing the rotation between the insulating base and the sleeve, then such indentations are mechanical equivalents of introverted tongues.

The evident purpose of the introverted tongues mentioned in claim 1 and introverted portions of the wall of the sleeve mentioned in claims 2 and 3 is to prevent rotation between the insulating base and the sleeve. The introverted tongues and the introverted portions of the wall of the sleeve are different things, but they accomplish the same thing in the same way and are mechanical equivalents. The introverted tongue 15 in Fig. 2 of Weber is the tongue referred to in claim 1. The change of language in claims 2 and 3 from "introverted tongues" to "a portion of its wall introverted" was doubtless made to cover any indentation of the wall of the sleeve adapted to enter the recess in the insulating base to prevent rotation between it and the sleeve. It seems to me, therefore, that the introverted portion of the wall cannot be limited to sharp-edge, cut-metal introverted tongues called for by claim 1.

In the Benjamin patent No. 575,322 January 19, 1897, we have a base of insulating material having a peripheral recess, etc. In fact we, admittedly, have every requirement of claims 2 and 3 except the introverted portions of the wall of the sleeve, and as to these the patent describes them thus:

742 "Upon the interior of the shell or casing c two lugs or projections c^2 c^2 are provided, which engage corresponding recesses a^2 a^2 in the base a to prevent rotation of the base relatively to the casing."

In the Benjamin patent, however, the indentations or inward projections are on the cap and not on the sleeve as in Weber. It makes no difference on which of the case-members the lug or projection is located for the purpose and effect is identical, whether in one member of the casing or the other. The introversion of the casing into engagement with a recess in the base has no different function, mode of operation or effect in the Weber socket than in the Benjamin socket and the defendant's sockets.

In the Edison and Swan patent May 1, 1895,

"The base A is grooved along each side, and the casing G which holds it has its two opposite sides indented as shown at H, so that the base A and the parts fixed on it are made to occupy the proper position relatively to the bayonet catch slot K by which the lamp base is held in the socket."

These indentations in the casing, which project into recesses in the base A are shown by top view in Fig. 2, where they are Marked H

and accomplish the same thing in the same way as the introverted portions of the wall of the sleeve in the Weber patent.

The Gover patent, 1897, shows and describes indentations in the wall of the casing engaging with corresponding grooves in the periphery of the insulating base to prevent rotation between it and the casing. "The two sides of the socket are indented so as to form internal protuberances p engaging in the grooves i of the insulator to prevent it from turning." This serves the same purpose as the introverted portions of the wall of the casing in the Weber patent.

These patents admittedly conform to claims 2 and 3 of Weber in all essential respects, except the introverted portions of the
703 wall of the casing, and if it is true, as I hold, that that is not limited to a cut-metal edge tongue, they substantially agree in this respect.

I have not considered the Epstein patent, the Mix and Genest patent, the Perkins patent and the Marshall patent, because they are all subsequent to the date of the invention of Weber as found by Judge Ray, with whose conclusions I agree.

It follows that claims 2 and 3 are invalid and not infringed and that claims 1 and 4 of Weber are valid and infringed and on those two claims, 1 and 4, the plaintiff is entitled to an injunction and damages.

J. WARREN DAVIS,
Judge.

Interlocutory Decree as Amended.

(Filed December 23, 1918.)

This cause came on to be heard at this term and was argued by counsel; and thereupon, upon consideration thereof, it was ordered, adjudged and decreed as follows, viz.:

First. That the said Letters Patent No. 743,206, granted and issued on the third day of November, 1903, to August Weber, Sr., for Incandescent Electric Lamp-Sockets, being the Letters Patent referred to in the bill of complaint herein, are good and valid in law as respects claims 1 and 4 therein specified.

Second. That the said August Weber, Sr., was the first, original and sole inventor and discoverer of the improvement and invention in Incandescent Electric Lamp-Sockets as described in said claims 1 and 4 of said Letters Patent No. 743,206, and the specification thereof.

Third. That the Plaintiff, Weber Electric Company, is the lawful owner of said Letters Patent No. 743,206, and of all claims for, or on account of, infringement of the same since the date thereof.

704 Fourth. That the Defendant, E. H. Freeman Electric Company, has infringed upon said Letters Patent and upon the exclusive rights of the plaintiff under the same by making, using and selling incandescent electric lamp-sockets like the respective

Plaintiff's Exhibits herein, "Defendant's Key Socket," "Defendant's Keyless Socket," and "Defendant's Keyless Socket No. 2," embodying the invention and improvement therein as particularly set forth in said claims 1 and 4 thereof.

Fifth. That a perpetual injunction be issued out of and under the seal of this Court directed to the said Defendant, E. H. Freeman Electric Co., restraining it, its attorneys, agents, clerks, servants and workmen, and all claiming or holding under or through it, from making, using and selling Incandescent Electric Lamp-Sockets made in accordance with, or containing, the invention or improvement described in said claims 1 and 4 of said Letters Patent No. 743,206, and particularly from the manufacture, use or sale of Incandescent Electric Lamp-Sockets like or substantially like the respective Plaintiff's Exhibits herein, "Defendant's Key Socket," "Defendant's Keyless Socket," and "Defendant's Keyless Socket No. 2," and from infringing upon or violating said claims 1 and 4 of said Letters Patent in any way whatsoever.

Sixth. That the plaintiff do recover of the defendant the profits, gains and advantages which said defendant has received or which have arisen or accrued to it, as well as the damages resulting to the plaintiff, by the manufacture, use or sale by said defendant, of Incandescent Electric Lamp Sockets made in accordance with, or containing the invention or improvement described in claims 1 and 4 of said Letters Patent No. 743,206, which under the proofs, the plaintiff may be entitled to recover.

Seventh. That it be referred to Edward O'Byrne, residing in Paterson, State of New Jersey, as master pro hac vice to ascertain
765 and take, and state, and report to the Court an account of the number of Incandescent Electric Lamp Sockets like, or substantially like, Plaintiff's Exhibits, "Defendant's Key Socket," "Defendant's Keyless Socket," and "Defendant's Keyless Socket No. 2," embodying said invention and improvement as set forth in said claims 1 and 4 of said Letters Patent No. 743,206 made, used or sold by said defendant, and also the profits, gains and advantages which the defendant has received or which have arisen or accrued to it, as well as the damages resulting to the plaintiff, by the manufacture, use or sale by said defendant, of Incandescent Electric Lamp-Sockets like or substantially like Plaintiff's Exhibits, "Defendant's Key Socket," "Defendant's Keyless Socket," and "Defendant's Keyless Socket No. 2," made in accordance with, or containing, the invention or improvement described in said claims 1 and 4 of said Letters Patent No. 743,206, which under the proofs, the plaintiff may be entitled to recover.

Eighth. That the said Letters Patent No. 743,206, granted and issued on the third day of November, 1903, to August Weber, for Incandescent Electric Lamp-Sockets, being the Letters Patent referred to in the bill of complaint are invalid in law as respects claims 2 and 3 therein specified and therefore that said claims are not infringed by any of defendant's sockets.

Ninth. That the Bill be dismissed with respect to said claims 2 and 3 of said Letters Patent No. 743,206.

J. WARREN DAVIS,
U. S. Judge.

December 23, 1918.

Assignment of Errors.

(Filed December 5, 1918.)

Now comes the above-mentioned defendant, E. H. Freeman Electric Company, and submits that in the record of the proceedings herein and the decree entered on or about the 20th day of November, 1918, there is manifest error as follows, to wit:

1. In granting plaintiff an injunction and accounting in respect to defendant's sockets mentioned in the decree or either of them; whereas the Court should have found the equities with defendant and dismissed the bill at plaintiff's cost.

2. In finding the first and fourth claims of the Weber patent in suit, or either of them, valid and infringed; whereas the Court should have found that neither of said claims was, or had been, infringed by defendant or by either of defendant's sockets mentioned in said decree, and should have dismissed the bill at plaintiff's cost.

3. In finding the first claim of said patent valid and infringed and granting relief thereunder; whereas it should have found that said claim had not been infringed by defendant or by either of defendant's sockets mentioned in said decree and was invalid under any interpretation broad enough to cover any device made, used or sold by defendant.

4. In finding the fourth claim of said patent valid and infringed and granting relief thereunder; whereas it should have found that said claim had not been infringed by defendant or by either of defendant's sockets mentioned in said decree, and was invalid under any interpretation broad enough to cover any device made, used or sold by defendant.

5. In finding that the said Weber was the first, original, and sole inventor and discoverer of any improvement or invention described in the first and fourth claims, or either of them, of the Weber patent in suit, or in the specifications thereof.

6. In finding plaintiff the owner of said Weber patent or of claims for infringement since the date thereof.

7. In failing to find that, through delay in applying for said Weber patent, by reason of intervening rights, and by proceedings in the Patent Office, the patentee had abandoned the said alleged invention or so much thereof as was necessary to support any interpretation of the claims in suit broad enough to sustain

the charge of infringement, that said claims, and each of them, were neither valid nor infringed, and to dismiss the bill at plaintiff's cost.

D. P. WOLHAUPTER.

Nov. 30, 1918.

Assignment of Errors on Cross Appeal.

(Filed January 9, 1919.)

Now comes the Plaintiff, Weber Electric Company, and having prayed and appealed to the United States Circuit Court of Appeals for the 3rd Judicial Circuit from the Interlocutory Order or Decree of the said District Court entered in this cause on the 23rd day of December, 1918, granting and allowing an injunction in respect to claims 1 and 4 of U. S. Letters Patent No. 743,206, to A. Weber, Sr., and refusing an injunction and ordering the bill dismissed as to claims 2 and 3 of said patent 743,206, respectfully represents that the Court erred as follows:

First. In ordering and decreeing that said letters patent 743,206 are invalid in law as respects claim 2 therein specified.

Second. In not entering a decree adjudging that said A. Weber, Sr., was the first, original and sole inventor and discoverer of the improvement and invention in incandescent electric lamp sockets as described in said claim 2 of said letters patent 743,206.

Third. In not ordering and decreeing said claim 2 to be
708 valid and infringed by incandescent electric lamp sockets like each of Plaintiff's exhibits, "Defendant's Keyless Socket" and "Defendant's Keyless Socket No. 2."

Fourth. In refusing to grant an injunction restraining the defendant from further infringement of said claim 2.

Fifth. In refusing to order an accounting of profits and damages as prayed for in the bill of complaint with respect to said claim 2.

Sixth. In ordering the bill dismissed as to said claim 2.

Seventh. In ordering and decreeing that said letters patent 743,206 are invalid in law as respects claim 3 therein specified.

Eighth. In not entering a decree adjudging that said A. Weber, Sr., was the first, original and sole inventor and discoverer of the improvement and invention in incandescent electric lamp sockets as described in said claim 3 of said letters patent 743,206.

Ninth. In not ordering and decreeing said claim 3 to be valid and infringed by incandescent electric lamp sockets like each of Plaintiff's exhibits, "Defendant's Keyless Socket" and "Defendant's Keyless Socket No. 2."

Tenth. In refusing to grant an injunction restraining the defendant from further infringement of said claim 3.

Eleventh. In refusing to order an accounting of profits and damages as prayed for in the bill of complaint with respect to said claim 3.

Twelfth. In ordering the bill dismissed as to said claim 3.

Thirteenth. In refusing to award plaintiff herein its costs in this action.

FRANK C. CURTIS,
Solicitor for Plaintiff.

Troy, N. Y., Jan. 8, 1919.

709 *Stipulation.*

(Filed January 27, 1919.)

Whereas an Interlocutory Decree was entered herein November 20, 1918, holding letters patent in suit No. 743,206 valid and infringed as to claims 1 and 4 thereof, and ordering a perpetual injunction and an accounting of profits and damages as to said claims 1 and 4, and awarding the costs of the action to plaintiff, from which decree said defendant was allowed an appeal on the 5th day of December, 1918; and whereas said decree so appealed from has been superseded by an Interlocutory Decree entered herein December 23, 1918, which later decree contains the provisions of said decree entered November 20, 1918, except as to the awarding of costs, and which later decree decrees said letters patent invalid and not infringed as to claims 2 and 3 thereof, and orders the bill dismissed as to said claims 2 and 3, from which later decree of December 23, 1918, plaintiff was allowed an appeal on the 9th day of January, 1919.

Now, therefore, it is stipulated and agreed by and between the parties hereto, with the approval of the Court, that a single transcript of the record including both said appeals be transmitted to the Circuit Court of Appeals for the 3d Circuit as the joint record of the parties appealing, that all proceedings heretofore had or taken with respect to defendant's appeal from said order and decree entered November 20, 1918, shall stand and apply to said decree entered December 23, 1918, with the same force and effect as though said decree of December 23, 1918, had been entered in place of, and on the same date as, said decree of November 20, 1918, and that the order waiving rule 75 entered herein apply to both said appeals herein.

710 It is further stipulated that the issuing of citation by plaintiff on said appeal be and the same hereby is waived.

FRANK C. CURTIS,
Solicitor for Plaintiff.
D. P. WOLHAUPTER,
Solicitor for Defendant.

So ordered, January 27, 1919.

J. WARREN DAVIS,
United States District Judge.

711 In the United States Circuit Court of Appeals for the Third Circuit, March Term, 1919.

No. 2440.

E. H. FREEMAN ELECTRIC COMPANY, Defendant-Appellant,

vs.

WEBER ELECTRIC COMPANY, Plaintiff-Appellee.

And afterwards, to wit, on the first and second days of April, 1919, come the parties aforesaid by their counsel aforesaid, and this case being called for argument sur pleadings and briefs, before the Hon. Joseph Buffington, and Hon. Victor B. Woolley, Circuit Judges, and the Hon. Hugh M. Morris, District Judge, and the Court not being fully advised in the premises, takes further time for the consideration thereof.

And afterwards, to wit, on the 13th day of August, 1919, come the parties aforesaid by their counsel aforesaid, and the Court now being fully advised in the premises, renders the following decision:

712 In the United States Circuit Court of Appeals for the Third Circuit, March Term, 1919.

No. 2440.

E. H. FREEMAN ELECTRIC COMPANY, Defendant-Appellant,

vs.

WEBER ELECTRIC COMPANY, Plaintiff-Appellee.

March Term, 1919.

No. 2441.

WEBER ELECTRIC COMPANY, Plaintiff-Appellant,

vs.

E. H. FREEMAN ELECTRIC COMPANY, Defendant-Appellee.

On Appeal from the District Court of the United States for the District of New Jersey.

Before Buffington and Woolley, Circuit Judges, and Morris, District Judge.

MORRIS, *District Judge:*

Weber Electric Company, the plaintiff, filed its bill in equity against E. H. Freeman Electric Company, charging infringement of United States letters patent No. 743,206, for improvements in in-

candescent-electric-lamp sockets, granted to August Weber, Sr., November 3, 1903, and by him assigned to the plaintiff. The claims in issue were 1 to 4, inclusive. From a decree adjudging claims 1 and 4 valid and infringed, and claims 2 and 3 invalid, both parties appealed.

The incandescent-electric-lamp socket to which Weber's patent relates is a sheet metal case consisting of a sleeve and a cap telescopically fitting over the end of the sleeve. The case thus formed encloses an insulating base with which the line wires entering through a central aperture in the cap are connected and upon which is affixed a screw-socket for receiving the screw-threaded shank of an incandescent lamp. The patent deals principally with interlocking means between the sleeve and cap and with means to prevent rotative movement between sleeve and base when a lamp is being inserted in or removed from the screw-socket affixed to the base. The claims in issue are set out at length, and plaintiff's structure described, in the opinion of the court below. 253 Fed. 657.

The plaintiff contends that claims 1, 2, 3 and 4 are infringed by defendant's keyless socket, and claims 1 and 4 by defendant's key-socket, and, as cross-appellant here alleges that the court
713 erred in adjudging claims 2 and 3 invalid, instead of valid and infringed. Each of these claims was held valid and infringed in a suit brought in the southern district of New York by this plaintiff against National Gas & Electric Fixture Co. 201 Fed. 79; affirmed 212 Fed. 948. The defendant contends, however, that in view of the evidence as to the prior art presented in this but not in the former case both claims 2 and 3 are invalid for want of patentable novelty. This new evidence consists, among other things, of British patent to The Edison & Swan Electric Light Co. Ltd., No. 6781 of 1895, British patent to Gover, No. 11,714 of 1897, and U. S. patent No. 575,322 to Benjamin, dated January 19, 1897. Each of these patents, as does Weber's, pertains to electric lamp sockets. The Edison & Swan patent states:

"The base A is grooved along each side, and the casing G which holds it has its two opposite sides indented as shown at H, so that the base A and the parts fixed in it are made to occupy the proper position relatively to the bayonet catch slot K by which the lamp base is held in the socket."

The Gover patent expressly provides:

"The two sides of the socket are indented so as to form internal protuberances *p* engaging in the grooves *i* of the insulator to prevent it from turning."

In these two patents the lamp is mounted directly upon the sleeve by means of bayonet slots instead of upon the base by means of the lamp support or screw-socket as in Weber's, but in the Benjamin patent the lamp is mounted upon the base by means of a screw-socket, the base being enclosed in a case or shell of two parts

screwed together. Benjamin described his means of preventing rotation between the case and base thus:

"Upon the interior of the shell or casing *a* two lugs or projections *c' c'* are provided, which engage corresponding recesses *a' a'* in the base *a* to prevent rotation of the base relatively to the casing."

To prevent unscrewing the sleeve and cap when screwing the lamp into or unscrewing it from the screw-socket of the base Benjamin placed his projections within the cap instead of within the sleeve. Each of these three patents antedates the Weber invention. The means to prevent relative rotative movement between case and base called for by Weber's claims 2 and 3 consists of a "peripheral recess" in the base and "a sheet metal sleeve having a portion of its wall introverted to occupy said base recess." These claims deal only with means to prevent rotative movement between base and socket, and do not, as do claims 1 and 4, include means to automatically interlock with a snap action when the case members are telescopically joined, thereafter to remain interlocked until released by manually compressing the sleeve. The device described in each of the prior art patents accomplishes the same purpose by substantially the same means operating in substantially the same way as does the introverted portion of the case wall called for by Weber's claims 2 and 3, and this is true whether or not the claims be restricted to the specific device he describes. Consequently these claims lack novelty and fall within the references to the prior art. We are, therefore, of the opinion that claims 2 and 3 of the Weber patent cannot be sustained, and that the court below did not err in so holding.

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The defendant-appellant by its assignments of error alleges that the court below erred in finding claims 1 and 4 valid and infringed. These claims were in issue and sustained in Weber Electric Co. v. National Gas & Electric Fixture Co., 204 Fed. 79; affirmed 212 Fed. 948; Weber Electric Co. v. Wirt Mfg Co., 226 Fed. 481; and Weber Electric Co. v. Cutler-Hammer Mfg. Co., (unreported); affirmed 256 Fed. 31. Claim 1 was in issue and sustained in Weber Electric Co. v. Union Electric Co., 226 Fed. 482. In view of these decisions and because we think the plaintiff has failed to show that the defendant has used the particular devices to which the plaintiff can be considered entitled under these claims, assuming them to be valid, our discussion will be confined to the question of infringement.

Claims 1 and 4 call for "a cap adapted to telescopically receive the slotted end of said sleeve;" to which claim 1 adds "said members having interengaging parts *adapted to automatically interlock with a snap action when telescopically applied to each other;*" and claim 4, after describing the interengaging parts, provides, "whereby said members are *adapted to automatically interlock with a snap action when telescopically applied to each other.*" That the italicized words are words limiting and restricting the claims to such interengaging parts as will automatically interlock with a snap action when telescopically applied to each other is clear. Paper Bag Patent Case, 210 U. S. 405, 410. The Corn-Planter Patent, 23 Wall. 181, 218-219. Dey

Time-Register Co. v. W. H. Bundy Recording Co., 169 Fed. 807; affirmed 178 Fed. 812. Long v. Pope Manuf'g. Co. 75 Fed.
715 835, 839. But the meaning of these words of limitation, and particularly of the words "when telescopically applied" remains to be ascertained. For this purpose resort may be had to the state of the prior art, the file wrapper and contents of the Weber patent in suit, Weber's patent No. 916,812, where the identical words are again used by him, and to the dictionaries.

The incandescent-electric-lamp socket in most general use before and at the time of Weber's invention was made in two parts, one sleeved over the other and united by a bayonet joint. To form this joint one member had an open end slot, longitudinal for part of its length and transverse the remainder. The other member was provided with a stud which entered and passed down the longitudinal part of the slot as the members were pushed together; then by a rotary movement of one member upon the other the stud entered the transverse part of the slot and locked the two parts so as to prevent separation by a longitudinal movement. The members were held against reverse lateral motion by friction or by the tightening of a screw forming the stud in one or more of the bayonet joints.

The chief object of Weber's invention was to provide an automatic and positive locking connection between the sleeve and cap of the socket. His original application contained eight claims, but, as disclosed by the file wrapper and contents, certain claims were rejected by the patent office on patent to Oetting, No. 642,825 or to Kenney, No. 712,686. The Oetting device, as appears by the specification, was intended to do away with the bayonet joint as a locking means. It substituted therefor spring tongues formed within and as part of the sleeve, and bent flanges or lips on the spring tongues adapted to engage openings or slits in the flange of the cap. The lock so formed was positive in that it required deliberate effort to release it. The parts were adapted to interlock by simply slipping or pushing one within the other as contrasted to the bayonet joint locking movement, but the lock was not automatic, for manual depression of the spring tongues was necessary to permit the flange of the cap to pass over the protruding lips. In Kenney's device the opening in the sleeve consisted of bayonet slots, and bayonet slots with a bridge crossing the transverse portion of the slot at its intersection
716 with the vertical portion, the bridged bayonet slots being designated in the patent as open-end slots and adjacent pockets with a bridge between them. Radial inwardly projecting studs on the cap were designed to travel vertically in and to the lower end of the open-end slots or gates, thence laterally across the bridge and into the adjacent pockets, while additional radial projections on the cap were travelling in the vertical and transverse portion of the bayonet unbridged slots, and entering recesses within the periphery of the socket base to lock it in position. The radial projection entering the bridged bayonet slot was beveled on each side to permit its passing over the bridge by a lateral or rotary movement in locking and unlocking. Kenney's lock would not operate by the longitudinal assembling of the case members; it required a rotary move-

ment; it was not positive for it could become unlocked without a deliberate effort to accomplish that purpose, but it was automatic in that it could be locked without separate manipulation of the interengaging parts.

After the above mentioned rejection of claims, the patentee amended his application and filed with the amendments remarks which indicate not only his understanding of the manner in which his device differed from those of Oetting and Kenney, but also his understanding of a "telescopic movement." Concerning his own device he says: "The parts are permitted to be applied to each other by simply inserting one within the other, without manually compressing the inner member," &c. As to the Oetting construction he states: "The parts cannot be locked together by simple telescopic movement, it being necessary to manually depress the catches," &c. He thus distinguishes from Oetting, not in the direction of the locking movement or in the positiveness of the lock, but in the automatic feature only. In so doing he treats the direction of locking movement as identical and describes it synonymously as "simply inserting one within the other" and as a "simple telescopic movement." Touching the Kenney socket Weber says: "Kenney's device is adapted to unlock by simply rotating one member upon another in the same manner that the parts are locked together, no manual compression of the inner member being necessary." Comparing this description with the Weber structure we find that both locks are automatic; Weber's is positive, Kenney's is not; Weber's locks by "simply inserting one (member) within the other," Kenney's by "simply rotating one member upon the other." The distinguishing features are the positiveness of the lock and the direction of locking movement. As "simply rotating one member upon another" is not "simply inserting one (member) within the other" it is not the movement described in Weber's remarks as "telescopic." It thus appears that "telescopic movement" is used by the patentee, not to describe a bayonet joint locking movement, but a movement in antithesis thereto. This is confirmed by the patentee's use of the words "when telescopically applied" in his subsequent patent, No. 670,812, which covered a device so constructed as to prevent relative rotary motion of the cap and sleeve both during and after [illegible] telescopic application. And we think these words apt and appropriate to define the straight longitudinal movement as distinguished from the bayonet joint movement, for such is their ordinary and usual acceptation.

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Hawkins' Mechanical dictionary, under "Telescopic pipe-joint" says: "The telescopic joint permits longitudinal extension and contraction." The word "telescope" is defined by the Standard dictionary thus:

"To drive together so that one slides into another like the sections of a spyglass or small telescope; to crush by driving together into or upon; to move like the sliding portions of a spyglass in closing."

Lexicographers have so uniformly defined this word that the meaning given by one may be accepted as imparting the thought of all. The verbs in this definition convey the idea of a longitudinal force

impelling a direct onward or forward movement in contradistinction to lateral force and rotary motion.

But even assuming that the words "when telescopically applied" are susceptible of a construction sufficiently broad to include the bayonet joint locking movement, the remarks, filed in the patent office by the patentee or on his behalf, distinguishing the Weber locking movement from that of Kenney, disclose that either Weber always intended and understood that these words should bear their usual meaning and thus exclude the Kenney movement, or under stress of the patent office rejection he elected to so restrict their meaning. In either event the result is the same, namely, that having thus limited his claims to exclude the bayonet joint movement of Kenney he is not now entitled through the aid of the doctrine of equivalents or otherwise to a construction that would embrace it.

The direction of the Weber locking movement has been heretofore considered by the courts, not, it is true, in cases in which the members of the socket alleged to be an infringement were
718 adapted to interlock by a bayonet joint movement only, for such device appeared in the history of the Weber litigation for the first time in the court below, but in cases in which the locking parts were adapted to interengage when applied to each other by a single, straight, longitudinal movement. In those cases the courts, construing the claims there in issue and differentiating the Weber device from those of Kenney and Oetting, have held that the Weber locking movement is a straight longitudinal motion along the axial line of the two members of the socket, and that this constituted a feature distinguishing it from the Kenney device. In the Union Electric Co. case Judge Rellstab, referring to the Weber device, said:

"From this recital, it will appear that in assembling the members nothing beyond telescopically applied pressure was necessary to effect interlocking."

And as to the Kenney device, said:

"No interlocking of the Kenney members could be effected automatically by telescopic pressure. A rotary movement of the members against each other was absolutely necessary to put the radial projections and the intermediate lugs into position to effect a locking engagement."

Judge Ray, in the National Gas & Electric Fixture Co. case referred to the interlocking of the two members of the Weber socket as taking place "as the two are pushed together." Judge Hand, in the Cutler-Hammer Mfg. Co. case, said:

"I think it is established by the decisions of Judge Ray, Judge Rellstab, and the circuit court of appeals, that the Kenney socket is locked by a rotative movement whereas the Weber socket is locked by direct longitudinal thrust. * * * Judge Ray * * * said as to the Bray patent No. 170,703, that the partial rotation required for disengagement was a distinguishing mark from the mode of operation of the Weber patent."

The Circuit Court of Appeals, in affirming Judge Hand, said, "The vital point is that Weber's way is to engage by a straight thrust * * *"

While the dominant feature of Weber's inventive idea may be the interlocking without handling or manipulating the catches as in Oetting, and the positiveness of the lock which requires manual compression of the slotted sleeve to unbolt it, as contended by the plaintiff, yet the protection afforded by the patent is no broader than its claims; and in view of the foregoing considerations we are of the opinion that the words "adapted to automatically interlock with a snap action when telescopically applied to each other" found in claims 1 and 4 limit those claims to such means or members as will so interlock when applied to each other by a straight longitu-
719 dinal motion along the axial line of the two members of the socket.

As defendant's key and keyless sockets charged to infringe claims 1 and 4 both lock with the bayonet joint movement and their locking means are not adapted to interlock when the members or means are telescopically applied to each other, we think the charge of infringement cannot be sustained.

The decree of the district court is accordingly affirmed as to claims 2 and 3, and reversed on the issue of infringement as to claims 1 and 4, with directions to dismiss the bill with costs to the defendant in this court and the court below.

Endorsements: 2440. 2441. Opinion of the Court by Morris, J. Received & Filed Aug. 13, 1919. Saunders Lewis, Jr., Clerk.

720 In the United States Circuit Court of Appeals for the Third Circuit. March Term, 1919.

No. 2440 (List No. 22).

E. H. Freeman Electric Company, Defendant-Appellant,

vs.

Weber Electric Company, Plaintiff-Appellee.

Appeal from the District Court of the United States for the District of New Jersey.

This cause came on to be heard on the transcript of record from the istrict Court of the United States, for the District of New Jersey, and was argued by counsel.

On consideration whereof, it is now here ordered, adjudged and decreed by this Court, that the decree of the said District Court in this cause be, and the same is hereby reversed on the issue of infringement as to claims 1 and 4 of Letters Patent No. 743,206, with

instructions to the District Court to dismiss the Bill; with costs to the Defendant in this Court and the Court below.

Philadelphia, August 13th, 1919.

VICTOR B. WOOLLEY,
Circuit Judge.

Endorsements: 2440. Order Reversing Decree, etc. Received & Filed Aug. 13, 1919. Saunders Lewis, Jr., Clerk.

721 In the United States Circuit Court of Appeals for the Third Circuit. March Term, 1919.

No. 2441 (List No. 23).

WEBER ELECTRIC COMPANY, Plaintiff-Appellant,

vs.

E. H. FREEMAN ELECTRIC COMPANY, Defendant-Appellee.

Appeal from the District Court of the United States for the District of New Jersey.

This cause came on to be heard on the transcript of record from the District Court of the United States, for the District of New Jersey, and was argued by counsel.

On consideration whereof, it is now here ordered, adjudged and decreed by this Court, that the decree of the said District Court in this cause be, and the same is hereby affirmed with costs, in so far as it applies to claims 2 and 3 of Letters Patent No. 743,206.

Philadelphia, August 13th, 1919.

VICTOR B. WOOLLEY,
Circuit Judge.

Endorsements: 2441. Order Affirming Decree, etc. Received & Filed Aug. 13, 1919. Saunders Lewis, Jr., Clerk.

722 United States Circuit Court of Appeals for the Third Circuit.

E. H. FREEMAN ELECTRIC COMPANY, Defendant-Appellant,

vs.

WEBER ELECTRIC COMPANY, Plaintiff-Appellee.

Petition for Rehearing.

Charles Neave, Frank C. Curtis, of Counsel for Plaintiff-appellee.

September 11, 1919.

Received & Filed Sep. 12, 1919. Saunders Lewis, Jr., Clerk.

723 United States Circuit Court of Appeals for the Third Circuit.

E. H. FREEMAN ELECTRIC COMPANY, Defendant-Appellant,

vs.

WEBER ELECTRIC COMPANY, Plaintiff-Appellee.

Petition for Rehearing by Plaintiff-Appellee.

We ask for rehearing with reference to claims 1 and 4 of the patent in suit because it seems to us clear that the Court has inadvertently fallen into error in its discussion and consequent disposition of these claims.

This Court has, of course, recognized that the above mentioned claims have repeatedly been sustained by various other courts, who uniformly have held that Weber, the patentee, had made a very real and substantial contribution to this particular art. And the gist of that invention is stated as follows in the opinion of this Court:

"The dominant feature of Weber's inventive idea may be the interlocking without handling or manipulating the catches as in Oetting, and the positiveness of the lock which requires manual compression of the slotted sleeve to unbolt it, as contended by the plaintiff."

724 This "dominant feature of Weber's inventive idea" seems to us clearly to be present in the defendant's structure, and we find nothing in the opinion of this Court to indicate that there is any thought to the contrary. This Court, while apparently recognizing the existence of this dominant feature of the invention and its presence in the defendant's structure, says that

"the protection afforded by the patent is no broader than its claims,"

(to which statement no exception can be taken), and then proceeds to construe the claims as being limited to something more narrow than that which the Court described as the the "dominant feature of Weber's inventive idea". That is, the claims refer to the interlocking action of the parts "when telescopically applied to each other", and the whole controversy appears now to have come down to the question as to whether or not the word "telescopically", in the claims, so limits them as not to cover the dominant feature, but to require some particular and specific direction of movement of the parts in getting into positive interlocking position.

As we understand the decision of the Court, it is held that the word "telescopically" means that the movement of the parts must be in a straight longitudinal line and excludes any rotation. It is in reaching this view that we believe that the Court has fallen into fundamental error.

That the Court is in error as to this limited meaning of the word, as defined by lexicographers, seems too clear to require argument, for, as we hereinafter show, practically every modern dictionary gives to the word "telescopic" a broad meaning which includes not

only a straight longitudinal movement, but a movement having a rotational component as well. Among these are the New Standard; Century; Webster's New International; Universal; American Encyclopædic; The Oxford (Murray's); The Imperial; and Knight's Mechanical Dictionary.

725 This Court says, in dealing with this aspect of the case,

"The meaning of these words of limitation, and particularly of the words 'when telescopically applied' remains to be ascertained. For this purpose resort may be had to the state of the prior art, the file wrapper and contents of the Weber patent in suit, Weber patent No. 916,812, where the identical words are again used by him, and to the dictionaries."

It seems to us that a reference to each of these enumerated sources of information shows, not that the words constitute the limitation found by this Court, but quite the contrary.

Referring first to the "state of the prior art," this Court, in the sentence immediately following that which we have last quoted, says that

"The incandescent electric lamp socket in most general use before and at the time of Weber's invention was made in two parts, one sleeved over the other and united by a bayonet joint. The members were pushed together; then by a rotary movement by one member upon the other, the stud entered the transverse part of the slot and locked the two parts, so as to prevent separation by longitudinal movement."

This, as the Court says, was the form of socket in most general use; and, indeed, it was in almost universal use; it was the well known structure, and it consisted of two brass shell members, one sliding over the other by both a longitudinal movement of the members and a rotational movement to bring the parts to the position in which they are to be connected.

Now, if this was a "telescopic" movement, then the defendant's members engage with a telescopic movement, and that the movement in that old structure was a "telescopic" movement, as that word is used in the patent here in suit, is shown by the definition contained in the patent itself.

726 At line 35 of page 1 of the patent in suit, the patentee is defining not what his invention is, but what it is applicable to; and he says that it is applicable to various telescopically-connecting members, and is especially adapted for use "in the telescopically connecting cap and sleeve members of incandescent electric lamp sockets." Obviously, the patentee, in here describing the kind of structure to which his invention is particularly applicable, had in mind the form of incandescent electric lamp socket which this Court said was in most general use at the time of the invention, namely, one with the bayonet-joint in which there were two members, one sliding over the other. It happened that, in that old form, one member had with reference to the other, both a longitudinal and a rotary movement in coming into connecting position, but that did not prevent the connection from being telescopic, according to the definition

of the patent in suit. To that patent it is immaterial whether in making this telescopic connection the movement is all longitudinal, or partly longitudinal and partly rotary; the invention and novelty resided not in a new movement but in making the locking action a positive and automatic one,—that is, no screw is required for holding the parts in their final position (as was the case with the old bayonet joint); but the mere act of bringing the parts to their final position automatically produced the positive engagement.

In describing the old bayonet-form of connection as "telescopically connecting" the patentee has in terms defined that word in such manner as to include the defendant's device.

Nor is that meaning of the word excluded by anything else in the prior art, prominent examples of which, so far as the literature is concerned, are found in the Oetting patent and in the Kenney patent. Weber's invention—the substantial and real contribution that he made to this art, is found by the various courts and recognized by this Court in its opinion—resided not at all in any way of sliding the parts together different from those of Oetting or Kenney, both of whom had sleeves moving over one another, but in the thing
727 that was accomplished by that movement. In the Oetting patent, simple movement of the parts, no matter in what way, could not effect a positive locking; that had to be supplemented by pressure exerted manually at one or more points on the sleeve-member. Nor could the mere movement of the two parts, no matter how moved, in the Kenney structure, effect the positive locking, for in that instance there was frictional engagement only, and nothing positive at all about the locking. Weber, by mere movement of the parts over each other, obtained a positive lock, as distinguished from Kenney, and without any manual manipulation, as distinguished from Oetting.

The gist of the Weber invention is that he obtained this locking merely by the movement of the parts, and there is nothing in the prior art which limits that movement to any specific kind of movement, provided that the parts move over each other, as they do in other telescopic structures, and as they do in the defendant's structure.

So we see that a reference to the prior art indicates clearly that the defendant is infringing.

This leads immediately to a consideration of the file-wrapper and contents of the patent in suit, this being the second of the items to which this Court referred in its opinion with reference to the construction of the claims.

It should be borne in mind that there was no amendment made during the course of the prosecution of the Weber application which bears upon the meaning of the word "telescopic"; and the only thing that can be discussed in this connection is the arguments of the attorneys in differentiating the Oetting and Kenney prior patents. Arguments of attorneys in the file wrapper are not competent to change the meaning of words in a claim.

Spalding v. Wanamaker, 256 Fed. 530-534;
Westinghouse v. Condit, 194 Fed. 427-430;
Autopneumatic Co. v. Kindler & Collins, 247 Fed. 323-32

728 However, this Court appears to have misunderstood these arguments. The attempt there was to set forth only what we have briefly outlined above as the difference between the Weber structure on the one hand, and either the Oetting or the Kenney structure on the other hand.

As to the Weber file-wrapper the Court says:

"Concerning his own device he says: 'The parts are permitted to be applied to each other by simply inserting one within the other, without manually compressing the inner member' &c. As to the Oetting construction he states: 'The parts cannot be locked together by simple telescopic movement, it being necessary to manually depress the catches,' &c. He thus distinguishes from Oetting, not in the direction of the locking movement or in the positiveness of the lock, but in the automatic feature only. In so doing he treats the direction of locking movement as identical and describes it synonymously as 'simply inserting one within the other' and as a 'simple telescopic movement.'"

No,—these statements in the file wrapper had no reference whatever to the direction of movement in applying the parts to one another. The point was entirely as to the locking being affected by the mere movement of the parts "without manually compressing the inner member."

The parts are applied to each other by "simply inserting"; the reason why it is "simply inserting" is because it is "without manually compressing the inner member."

There is no reference whatever in this expression to the direction of the telescopic movement, and there is no reason for any such reference because nowhere in the file wrapper is a straight telescopic movement contrasted with a telescopic movement having a rotational component.

The second statement of the file wrapper with reference to the Oetting construction is that "the parts cannot be locked together by simple telescopic movement, it being necessary to manually depress the catches." Here again is a statement of fact, followed by
729 the reason for the fact. The fact is that in Oetting there was absence of "simple telescopic movement" even though the movement was a straight one. The reason for the fact is that it is necessary to manually depress the catches. If "simple" meant "straight" as the Court infers, the above statement would be untrue.

The expressed reasons for the differentiation between Weber and Oetting are, in the case of Weber, the absence of manual compression of the inner member, and, in the case of Oetting, the necessity of manually depressing the catches. Neither manual compression of the sleeve nor the depression of the Oetting catches has anything whatever to do with the specific direction of the telescopic or assembling movement; and to attribute to the words "simply" and "simple" limitational meanings as to direction of movement makes these words without point in the argument.

Immediately following these two quotations from the file-wrapper the Court says, as above quoted:

"He thus distinguishes from Oetting not in the direction of the locking movement or in the positiveness of the locking, but in the automatic feature only."

which is correct; but the Court then says:

"In so doing he treats the direction of locking movement as identical and describes it synonymously as 'simply inserting one within the other' and as a 'simple telescopic movement'."

The Court here changes the meaning of simple to straight; but to characterize the movement as straight in comparing with Oetting would have no point whatever in the argument, and the Court admits this when it states that the locking movement of the two devices is "identical."

But the Court goes even further in reading this same expression "simply inserting," as meaning "straight movement," in its treatment of the comparison in the file-wrapper between the
7:30 Weber socket and the Kenney socket where not even the expression "simply inserting" appears. The Court quotes:

"Kenney's device is adapted to unlock by simply rotating one member upon another in the same manner that the parts are locked together, no manual compression of the inner member being necessary."

Here again is a statement of fact followed by the reason for the fact. The fact is that Kenney unlocks in the same manner that he locks. That manner is "by simply rotating one member upon another"; and the reason why it can be done in the same manner is not because of the direction of movement at all, but because no manual compression of the inner member is necessary.

If Weber had a frictional lock, the socket could be unlocked in the same manner in which it was locked—automatically.

If Kenney had a positive lock, the socket could not be unlocked in the same manner as it was locked—frictionally.

The direction of movement in either case has nothing to do with the matter.

The whole argument in the file wrapper in distinguishing Weber from Kenney relates to unlocking; and by no fair interpretation of that argument is there any comparison between the directions of the movements as the parts are telescoped or assembled together. The expression "simply inserting" and "simply rotating" were of no point in the argument contrasted, and it is significant that no advantage is claimed either in the file wrapper, or in the patent itself, for a straight telescopic movement over a rotational telescopic movement or a telescopic movement having a rotational component.

The only advantages claimed are the automatic locking, and the positiveness of the lock.

There is not a word in the patent specification other than the word "telescopically" which describes the movement in assembling and taking apart the case-members.

In considering the file-wrapper it should be borne in mind
731 that claim 1 was never rejected nor amended, nor referred to in argument.

The next item specified by the Court in construing the claims in suit is Weber's later patent No. 916,812.

The specification of this later patent states, at line 59, page 2:

"To insure the alinement of said projections and recesses during telescopic application to each other of the sleeve and cap."

A comparison of these two Weber patents leads inevitably to the conclusion that in the earlier patent (the one in suit) there was no means which insured the alinement of the projections and recesses during telescopic application to each other of the sleeve and cap, and that the maintenance of this alinement in the telescoping operation was immaterial so far as the motion of that patent was concerned. In other words, that there was no definite and determined direction of telescopic movement in assembling the cap and sleeve in the earlier patent; and that the invention of the later patent was to overcome this indefiniteness of direction of movement and to keep the projections in line with the recesses during telescopic application.

But if meanings in Weber's later patents are to be taken into consideration, we find that Weber himself, as well as the Patent Office, recognized the fact that "telescopically" includes a movement having a rotational component, that is a bayonet-movement; for in his later patent, No. 1,136,383, he shows and describes a bayonet-joint which is described in claim 2, as,

"means for guiding the members telescopically together by a movement having a rotational component."

We thus find that in the Weber patent No. 916,812, he provided means "to insure the alinement of said projections and recesses during telescopic application to each other of the sleeve and
732 cap"; and in his later patent No. 1,136,383, he provided "means for guiding the members telescopically together by a movement having a rotational component"; while in his original fundamental patent No. 743,206 (here in suit) he makes no mention whatever of any particular direction of movement, but uses the broad expression "telescopically applied to each other."

The Dictionaries.

This indefinite meaning of the word "telescopic" or "telescopically" is, contrary to the statement of the Court, recognized by the best lexicographers; and we do not find it limited to a "direct onward or forward movement in contradistinction to lateral force and rotary motion," as the Court states.

We find no lexicographer's definition which so limits it, and the Court cites none. Lexicographers with practical unanimity have given to the word "telescopic" or "telescopically" a meaning in-

definite as to the direction of movement, and including a movement having a rotational component.

This Court has quoted with approval one definition only from the Standard Dictionary, and that definition is of the verb "telescope" (not the adverb "telescopically"), as follows:

"To drive together so that one slides into another like the sections of a spy-glass or small telescope; to crush by driving together into or upon; to move like the sliding portions of a spy-glass in closing."

One of these meanings is "to move like the sliding portions of a spy-glass in closing."

It is almost impossible to secure accurate focusing of an ordinary hand telescope of spy-glass without a twisting or rotative movement as almost anyone knows who has ever operated such an instrument.

733 Judge Davis was familiar with this fact and took judicial notice of it. He says:

"Often slight rotative movements are necessarily employed in bringing together sections of a spy-glass."

This Court has not disputed this finding of fact; and is it not significant that nowhere in their brief or argument have counsel for defendant-appellant taken exception to this finding of fact by Judge Davis, nor have they or their expert ever contended, or submitted any authority, for a defined meaning of the word "telescopically" limiting it to a straight longitudinal movement? They have strenuously contended that Weber must be limited to the straight telescopic movement for some reason or other, but never for the reason that authoritative definitions of the word "telescopically" required such a limitation.

When the Court has reviewed the Dictionary authorities hereinafter cited, it will, we think, be clear to the Court that this omission on the part of defendant's counsel and expert was not due to inadvertance, but to their understanding of the real meaning of the word "telescopically" after they had exhausted the lexicological authorities.

It is, we think, incredible that such eminent expert and counsel as those representing the defendant-appellant herein could have overlooked so important a point, had it been well founded, as that raised for the first time by this Court in its opinion due to a clear misunderstanding of the meaning of this word "telescopically" uniformly adopted by lexicographers.

As we have said, this Court quotes and relies upon a single definition only, taken from the Standard Dictionary. On the immediately following page, we find the following:

"Telescopic: 4. Mach. Having tubular parts or sections sliding *or working* within or over one another."

734 We have italicised "*or working*" in view of the use of the word "working" to mean a screw-movement in the definitions

of "telescopic-jack" given in Knight's Mechanical Dictionary, Century, Imperial, Webster's New International, The Universal, The Encyclopaedic, and the Oxford (Murray's).

Further than this, we find the Standard Dictionary, the authority from which this Court quotes, as well, approving the name "telescope-jack" for this same device, under "Jack," page 1307, near bottom of first column.

We referred the Court in our brief at page 84, to the Century Dictionary and Knight's Mechanical Dictionary as authorities for this meaning, both citing and approving the use of the word "telescopic" applied to a screw-jack, in which the telescoping movement is spiral.

If, as the Court says with respect to Lexicographers, "The meaning given by one may be accepted as imparting the thought of all," it would seem that two such eminent authorities as the Century and Knight would be sufficient.

That these were overlooked by the Court is probably due to the fact that no question was raised at the hearing as to the defined meaning of the term "telescopically" and there was no argument or discussion of this subject.

We now cite the following authorities, the full faced type being ours:

"Telescopic Jack. A screw-jack in which the lifting head is raised by the action of two screws having reversed threads, one **working** within the other, and **both** sinking or **telescoping** within the base. By this differential arrangement greater power is obtained."

Knight's American Mechanical Dictionary, P. 2524.

This definition is given word for word also by the Universal Dictionary, Vol. 4, p. 4643; and the American Encyclopaedic Dictionary, Vol. 4, p. 4022.

"Telescopic, 4. Capable of being extended or shut up like a spy-glass; having joints or sections which slide one within an-
735 other; especially, in mach., constructed of concentric tubes, either stationary, as in the telescopic boiler, or movable, as in the telescopic chimney of a war-vessel, which may be lowered out of sight in action or in the telescopic-jack, a screw-jack in which the lifting head is raised by the action of two screws having reversed threads, one **working** within the other, and **both** sinking or **telescoping** within the base—an arrangement by which greater power is obtained." The Century Dictionary, P. 6218.

"Telescopic, Telescopical: 4. Having the power of extension by joints sliding one within the other, like the tubes of a pocket telescope: especially in mach. constructed of concentric tubes, either stationary, as in the telescopic boiler, or movable as in the telescopic chimney of a war vessel, which may be put out of sight in action by being closed **endwise**, or in the telescopic jack, a screw-jack in which the lifting head is raised by the action of two screws having reversed threads, one **working** within the other, and **both** sinking or **telescoping** within the base." The Imperial Dictionary, P. 322.

"Telescope-jack. Mech. A bottle-jack the male screw of which (*a* in the illust.) is a **telescope-screw** in which works another (solid) male screw (*b*)." Webster's New International Dictionary (Illustrated), P. 2123.

"Telescope-screw. Mech. A screw consisting of a cylinder threaded internally and externally. Webster's New International Dictionary, P. 2123.

"Telescope, v. * * * (*b*) intr. To slide, run or be driven one into another (or into something else); to have its parts made to slide in this manner (see quot. 1882, s. v. telescoping below); to collapse so that its parts fall into one another (quot. 1905). 1877 Knight Dict. Mech. 2524/2 Two screws—one **working** within the other, and **both** sinking or **telescoping** within the base." The Oxford (Murray's) Vol. IX, p. 152.

In view of the fact that the question of the defined or authorized meaning of the word "telescopically" was never raised by the
736 defendant's expert or counsel and was not argued at the hearing, and counsel for plaintiff-appellee are taken by surprise by the restricted meaning given this word by this Court in its opinion, we beg permission to call the attention of the Court to the recognition of the broader meaning of the word, which includes a movement having a rotational component, as used by a number of patentees and approved by the Patent Office, and we offer certified copies of the following pertinent patents which we request the Court to consider with respect to this commonly accepted meaning of the word in question:

Patent No. 390,605, to Joyce, Oct. 2, 1888, for a Screw Jack, which shows the type of jack described in the above cited dictionary definitions as a telescope or telescopic-jack. At line 7, page 1 of this patent the patentee says:

"My invention relates to that class of jacks commonly called telescope-screw-jacks."

Patent No. 389,475, to Joyce, Sept. 11, 1888, for Telescopic Jack, showing the same general construction of screw jack. The patentee says, line 7:

"My invention relates to a means for operating a telescopic-screw jack."

Patent No. 385,468, to Mayfield, July 3, 1888, showing a Dental Operating Chair having a hollow interiorly screw-threaded base containing a nest of two telescope screws and a center screw-post. The specification states beginning at line 28, page 3:

"When the seat is lowered to the position shown in Fig. 2, the hollow screws are fitted one within the other, and when the seat is raised to the position shown in Fig. 1 the screws are extended one above the other, the said screws being telescoped."

These are referred to in claim 1 as "the telescopic nested elevating screws"; and in claim 2, as "the telescopic elevating screws supported

on the base", and in claim 4 as "the telescopic elevating screws."

737 Patent No. 804,363, to Youlten, Nov. 14, 1905, showing a telescopic sight for rifles and other arms, in which the focusing tubes are telescoped by a movement having a rotational component caused by means described as follows, line 99, page 1:

"r is a plate fixed spirally on the inside of the tube l, and w is a piece attached to the inner end of the sliding tube p and so cut away that it takes over the edges of the spiral piece r."

The operation is described at line 43, page 2, as follows:

"The tail x is carried clear of the head of the bolt k through the rotary motion imparted to the sliding tube p on account of the piece w taking over the edges of the spiral piece r."

Each of claims 11 and 12 is for "a telescopic sight for rifles and other weapons comprising inner and outer tubes, and means * * * for imparting a rotary motion to one of said tubes when the focus is changed."

Patent No. 1,136,383, to Weber, April 20, 1915, which shows and describes a true bayonet-joint having an L-movement between the sleeve and cap of an incandescent electric lamp socket. This is referred to in claim 2, as "means for guiding the members telescopically together by a movement having a rotational component."

Prior Court Decisions.

We believe this Court has not fully understood the prior decisions relating to this patent—and there have been so many of them that it is not surprising that some elements in them have been overlooked.

In considering these prior decisions the Court should, of course, not confuse statements which merely describe structures which a Judge is trying to explain, with conclusions or findings stated by the Judge upon the points in issue before him.

738 This Court has, in view of the explanation made by Judge Rellstab in his memorandum filed December 10, 1918, in this manner confused and misunderstood certain statements of description in the earlier opinion of Judge Rellstab filed July 29, 1915, with respect to the Kenney patent.

The statement which this Court quotes in its opinion from Judge Rellstab's earlier opinion, was at a later hearing called to the attention of Judge Rellstab with particular reference to this present Freeman case. This Court has interpreted said statement as showing that Judge Rellstab considered the difference in direction of movement a limiting feature of the Weber invention.

At the later hearing before Judge Rellstab the following discussion took place, a certified copy of which is before this Court:

"Mr. Curtis: Mr. Lowthorp brought into this case a phase of the Freeman case and it perhaps makes it necessary for me to call your attention to a statement in your decision on page six, the printed

decision. Mr. Lowthorp read that this morning. Apparently Mr. Lowthorp is trying to induce your Honor to make some comment in your opinion along the line which I think you inadvertently took in this statement at the bottom of the page, to the purpose that our claim is limited to a straight telescopic movement and not a bayonet telescopic movement. You say 'In Kenney (U. S.) the shell was provided with open-end slots and slots adjacent thereto. In combination with these slots —' you are describing the Kenney construction, and I do not understand that in your opinion you were passing upon a limitation as to the difference between a straight telescopic movement and a bayonet telescopic movement, because I don't believe that is in the case and you wouldn't go out of your way to do that.

The Court: I am dealing here with the Kenney——

Mr. Curtis: You say 'In combination with these slots and studs, the shell was provided with bayonet slots, intermediate of the others referred to, and the cap was provided with additional radial projections, intermediate of the studs referred to, which entered re-
739 cesses within the periphery of the socket base or insulator block to lock the same in position. No interlocking of the Kenney members could be effected automatically by telescopic pressure. A rotary movement of the members against each other was absolutely necessary to put the radial projections and the intermediate lugs into position to effect a locking engagement.'

The Court: What is inadvertent there?

Mr. Curtis: I mean the expression is advertently worded so that in the Freeman matter counsel has said you have here by that statement——

The Court: I don't care anything about the Freeman matter. He can put whatever interpretation he wants on it.

Mr. Curtis: But he is putting the interpretation on there that by that statement you have limited our claim now to a straight telescopic movement as distinguished from a bayonet telescopic movement. I don't think you intended to pass on that.

The Court: No, I didn't pass on that. It may be simply a matter of discussing it. Here the purpose was to distinguish between the two.

Mr. Curtis: You weren't interpreting the claim and limiting it in that way.

The Court: My interpretation of the claim comes later.

Mr. Curtis: I thought so, but the counsel argued strenuously and repeatedly that way,—so much so that I think Judge Davis was embarrassed by it. I insisted you had no such intention there because there wasn't any such question before you, and I think you had troubles enough in the case alone without going outside and passing on another question.

The Court: It is idle to attempt to read an opinion based on certain evidence before you, where the purpose is merely to determine first whether there is an infringement, as in that case, to attempt to read that on another structure entirely different.

Mr. Curtis: The only thing is I want to have you understand it, so your opinion won't be misconstrued.

740 The Court: What difference does it make what a judge happens to say in his reasoning except on the particular facts then before him?

Mr. Curtis: I don't think it does, but if you heard counsel argue on that point——

The Court: That wasn't Mr. Lowthorp.

Mr. Curtis: No, Mr. Lowthorp doesn't holler that way. It is Mr. Parkinson, a more strenuous man than Mr. Lowthorp. They modify the Kenney so they get a positive lock and one point in that case is that they do not infringe because they have a bayonet telescope. No point like that was before your Honor in that case.

The Court: No, and it isn't before me now.

Mr. Curtis: No, it isn't before you now.

* * * * * * *

Filed Dec. 10, 1918."

As to limitation of the claim to a straight telescopic movement as distinguished from a bayonet telescoping movement, Judge Rellstab thus distinctly said:

"No, I didn't pass on that. It may be simply a matter of discussing it."

Then in reply to Mr. Curtis' question:

"You weren't interpreting the claim and limiting it in that way."

Judge Rellstab answered:

"My interpretation of the claim comes later."

To Mr. Curtis' further question:

"No point like that was before your Honor in that case" (Union Case).

Judge Rellstab answered:

"No, and it isn't before me now."

Apparently these later statements of Judge Rellstab were overlooked by this Court.

Judge Ray in this same manner in his long opinion, wherein the discussion of the later Weber patent No. 916,812, was intermingled with that of the earlier patent here in suit, has in minute de-
741 tail described the various structures before him, but nowhere has he held that there was any limitation of the claim or of Weber's invention with respect to the direction of the locking movement of the parts; and no such question was at any time before him; nor was this question raised or discussed before Judge Augustus N. Hand in the Cutler-Hammer case, and the obiter statements which he made in his opinion and which this Court quotes, if meant as limitation upon the claim, are due to his confusion of mere statements of description by Judge Ray and Judge Rellstab which he

misunderstood to be limitations of the claim and of the Weber invention, and which he blindly followed.

This Court in its opinion seems to find in a portion of one sentence only in the opinion of the 2nd Circuit Court of Appeals, written by Judge Hough, a declaration of this same straight-movement limitation in the claim; but Judge Thomas in the later Connecticut case where the bayonet-movement was the only point in controversy did not so interpret Judge Hough's opinion any more than we do.

In making the statement, "The vital point is that Weber's way is to engage by a straight thrust," Judge Hough was answering the argument of the defendant's counsel that the Cutler-Hammer socket could not be automatically telescoped and locked, but that the telescopic application of one member to the other could be accomplished only by a deliberate manual compression of the sleeve. The feature of rotational movement was never in issue in the Cutler-Hammer case; and that Judge Hough was, in the statement referred to, not limiting the claim to a "straight longitudinal motion along the axial line of the two members of the socket" is shown by the fact that in the very part of his opinion from which this statement is quoted he holds that even where the cap has to be rocked onto the sleeve, the device comes within the claim, and certainly a rocking movement is not a "straight longitudinal motion."

The obiter statement by Judge Hand in the Cutler-Hammer
742 case, which this Court quotes in support of its opinion, was particularly called to the attention of the 2nd Circuit Court of Appeals both orally and at length in our brief (copies of which are before this Court), and we frankly stated the embarrassment which said statement might cause us on the appeal of the Freeman case. In view of this, Judge Hough cited with apparent approval Judge Davis' decision in the Freeman case, and with the record of the Freeman case before him as part of the record on appeal in the Cutler-Hammer case, states,

"We have examined this record without discovering any new matter substantial and persuasive and inducing us to depart from the considered decisions above recited."

He makes no exception of the Freeman decision.

Judge Hough says:

"We therefore, adhere to the following fundamental findings, viz: that by January 1, 1898, Weber had embodied the invention described and claimed in his earlier patent, which invention is a positive lock for the engagement of the sleeve and cap of lamp sockets, as distinguished from any and every variety of friction device."

And here he makes no reference whatever to direction of movement, but states that Weber's invention is a positive lock as distinguished from any and every variety of friction device. Later in his opinion Judge Hough discusses the twenty millions Yost-Kenney sockets which had been sold, and refers to the fact that these included "some which invited suit by Weber whereupon yet another change was made and the result is still on the market."

Judge Hough, having before him the various types of Yost-Kenney sockets, all rotationally locked, in referring to the twenty millions, said "How many of them were of the sort which invited action by Weber we are not informed. The form presently offered is not an infringement;" and in concluding his opinion Judge
743 Hough refers with approval to "the range of equivalents always hitherto accorded these patents." Here he makes no exception to the range of equivalents given the patent by Judge Davis, whose opinion he cites. Judge Hough further says: "If defendant wishes to use Kenney's frictional lock it is entirely at liberty to do so." He does not say "rotational" lock.

We may state that an appeal has been taken in the Connecticut case in which the bayonet-movement was the only point in issue, and in which Judge Thomas agreed with us that Judge Hough, in his opinion in the Cutler-Hammer case, did not limit the Weber claim to a straight longitudinal movement; and this appeal will doubtless be heard early in the October term.

This Court in its opinion says:

"The direction of the Weber locking movement has been heretofore considered by the courts, not, it is true, in cases in which the members of the socket alleged to be an infringement were adapted to interlock by a bayonet-joint movement only."

Here the Court has overlooked the fact that on April 11, 1919, there were filed with this Court a Connecticut socket, and certified and printed copies of the decision of Judge Thomas in the Connecticut case, 257 Fed. 429, in which the only point was the bayonet-movement.

Judge Thomas had before him a transcript of the Freeman record on appeal and the various socket exhibits. At the beginning of his opinion he states his reluctance to grant a preliminary injunction in a patent case. Among other things Judge Thomas says:

"Indeed it would be very difficult to conceive a case where a plaintiff could rely with greater force upon prior adjudications to assert his right to an injunction pendente lite."

Then, after discussing Judge Hough's opinion in the Cutler-Hammer case, Judge Thomas says:

"I cannot find that the defendant avoids infringement of his claim, and in view of the prior adjudications discussion con-
744 cerning it seems of no avail. The proposition is too clear to admit of argument. The only real issue here relates to the bayonet movement, and Judge Davis in the Freeman Case, has disposed of that contention in favor of this plaintiff, and I am in accord with his conclusions."

Judge Thomas' final statement is:

"I can see no escape from the conclusion that the plaintiff is justly entitled to the injunction prayed for, and it may therefore issue."

Conclusion.

It should be borne in mind that neither the specification nor the claims was ever amended with respect to this expression "telescopically applied," and therefore no unusual meaning can be attributed to these words.

It is well settled that arguments of counsel or attorney in the file-wrapper will not be considered by the Courts to change the meaning of words in the claim. Spaulding v. Wanamaker, 256 Fed. 530-534; Westinghouse v. Condit, 194 Fed. 427-430; Autopneumatic Co. v. Kindler & Collins, 247 Fed. 323-328.

But however this may be, we think this Court will find upon reconsideration of the file wrapper that it contains not even an argument as to the differences between a rotational movement and a straight telescopic movement or as to any advantage of the straight telescopic movement over the rotational telescopic movement.

We think it has been clearly shown that the ordinary meaning of the word "telescopically" is indefinite as to the direction of movement and the word may refer to either a straight telescopic movement or a telescopic movement having a rotational component. The Courts have repeatedly held the claim to be entitled to a fair range of equivalents; and we believe in consideration of the foregoing that this Court will find that there is no estoppel or other reason
745 for depriving this claim of the benefit of a fair range of equivalents with respect to the word telescopically if it were necessary to invoke that doctrine to find infringement.

The decisions cited by this Court do not bear out the conclusions expressed in its opinion, but on the contrary they sustain our position. While these decisions sustain the proposition that the patentee is bound by his claim, none of them hold the patentee limited to the letter of the claim; but in most cases the claim was given the benefit of the doctrine of equivalents of which this Court deprives us.

In the Paper-Bag case, the Court explicitly says that the doctrine of equivalents applies, and that the range of equivalents depends upon the extent and nature of the invention.

In the Corn-Planter case the Court gives the claim the benefit of the doctrine of equivalents and says:

"A literal construction is not to be adopted where it would be repugnant to the manifest sense and reason of the instrument."

"We ought to give a favorable construction so as to sustain the patent if it can fairly be done."

In the Time Register case Judge Ray held that defendant's machine had no equivalents for several features of the claim. The Circuit Court of Appeals held the patent anticipated and invalid.

In Long v. Pope the Court deprived the claim of the benefit of the doctrine of equivalents because the patent was a mere paper patent which had lain dormant many years. The Court said:

"If this invention had been put in early use and so continued with a long public acquiescence, it might perhaps have safely received

therefrom a practical construction more favorable to the complainants."

How these decisions sustain the conclusion reached by this Court we are unable to see. The proposition that a patentee is bound by his claim means not the letter but the substance of the claim, although this Court's opinion makes it mean strictly the letter
746 of the claim. There is no authority for this interpretation of the law under the decisions cited in the opinion, nor under any other decisions of which we know.

We do not think we need to invoke the doctrine of equivalents at all, as the claim reads literally on the defendant's device and its manner of operation; but if the doctrine of equivalents need to be invoked, it is necessary to invoke it in only the slightest degree. This Court says:

"While the dominant feature of Weber's inventive idea may be the interlocking without handling or manipulating the catches as in Oetting, and the positiveness of the lock which requires manual compression of the slotted sleeve to unbolt it, as contended by the plaintiff, yet the protection afforded by the patent is no broader than its claims."

This assumption as to the dominant feature of Weber's invention is beyond serious dispute or question; and in invoking the doctrine of equivalents, the equivalent devices or operations should be considered in their relation to this dominant feature. The direction of the telescopic movement was not Weber's invention, because both the straight telescopic movement, as in Oetting, and the rotational telescopic movement, as in Kenney, were old, and for the purposes of Weber's invention they were equivalent movements in the art.

Even if the ordinary meaning of the word "telescopically" implied a straight telescopic movement, it was the expression originally used in the claim and specification, and no particular emphasis can properly be placed upon it. Assuming the straight telescopic movement, the bevel on the projection performs its function of rendering the device automatic during the first part of the movement.

The last part of the movement, for perhaps an eighth of an inch or so, is essential to the dominant feature of the invention only to accomplish the snap-action, which makes the positive lock.

Comparing this with the bayonet-movement of the defendant's socket, we find the movement made up first of a straight longitudinal movement followed by a rotational movement of about one-
747 eighth inch. The straight longitudinal movement does everything which the first part of the straight telescopic movement would do in the Weber socket,—that is, it brings the parts, without manual intervention, into position to be locked; while the slight rotational movement in the defendant's socket accomplishes the snap which makes the positive-locking part of the dominant feature of Weber's invention; and this is precisely what the last eighth-inch movement does in the Weber socket.

The question is simply one of direction of movement without any

difference whatever with respect to the dominant feature of the Weber invention.

"That interpretation which sustains and vitalizes the grant of a patent should be preferred to that which strikes down and paralyzes it."

National Hollow Brake Beam Co. vs. Interchangeable B. B. Co., 106 F. 693;
Stead Lens Co. v. Kryptok Co., 214 F. 368.

"If its expressions are ambiguous or its validity or any claim thereof is doubtful, that construction will be given to it which will uphold, rather than that which will strike down and destroy the patent."

American Steel & Wire Co. vs. Denning Co., 160 F. 108-115;
Jewell Filter Co. v. Jackson, 110 F. 340-3.

"We ought to give a favorable construction so as to sustain the patent if it can fairly be done."

Corn Planter Patent, 23 Wall., 181.

Respectfully,

CHARLES NEAVE,
FRANK C. CURTIS,
Of Counsel for Plaintiff-Appellee.

We certify that the foregoing petition is in our opinion well founded in point of law; and that it is not presented for delay.

September 11, 1919.

FRANK C. CURTIS,
CHARLES NEAVE.

748 In the United States Circuit Court of Appeals for the Third Circuit.

WEBER ELECTRIC COMPANY, Plaintiff,

vs.

E. H. FREEMAN ELECTRIC COMPANY, Defendant.

Affidavit of Dr. John A. Brashear.

STATE OF PENNSYLVANIA,
County of Allegheny, ss:

John A. Brashear, being duly sworn, deposes and says that he is seventy-eight years of age; is now and has been for the last four years engaged in designing and the manufacture of telescopic apparatus and instruments of precision for astronomical uses; that about the year 1878 he was appointed to the Allegheny Observatory, a department of the University of Western Pennsylvania, and
749 later was made acting director of that Observatory; that he has been for more than twenty years trustee of the Carneg

Institute; for more than fifteen years trustee of the Carnegie Institute of Technology; for more than twenty years trustee of the University of Pittsburgh, and was made chancellor of the latter; that he is a Fellow of the American Association for the Advancement of Science, and of the Royal Astronomical Society of Great Britain; that he is a Past President of the Pittsburgh Academy of Arts and Science and of the American Society of Mechanical Engineers; that he is a member of the British Astronomical Association, of the Societe Astronomique de France, of the Societe de Belgique, of the American Philosophical Society, of the Washington Academy of Sciences, of the National Geographical Society, and an Honorary Member of the Royal Astronomical Society of Canada; that he has had the degree of Doctor of Laws conferred upon him by Washington and Jefferson College, by Wooster University, and by the University of Pittsburgh, and the degree of Doctor of Science has been conferred upon him by Princeton University and by Western University of Pennsylvania.

That ever since deponent was a boy he has been interested in and has had experience with various kinds of telescopic instruments and believes himself qualified by reason of his experience in the art, from his reading and discussions with others experienced in that art and the mechanical arts generally to state what is the recognized and accepted significance of the word "telescopically" as em-
750 ployed in describing the motions of mechanical parts.

That in deponent's opinion the word "telescopically," as used in describing the motion of mechanical parts, signifies that the parts move in a manner resembling the motions of the sections of an ordinary telescope without rack and pinion, and whether or not such sections in moving in and out be rotated or twisted or move without rotation, is immaterial since it is the custom in expanding and shutting up almost all simple telescopic instruments, such as field and spy-glasses, to rotate or twist one section relative to the other. Indeed, in telescopes with rack and pinion the fine adjustments are frequently made by slightly twisting the eye piece in its socket; that he has examined the lamp socket attached hereto and marked "Exhibit 1," and in his opinion the cap and body part of the shell are telescopically applied to each other and the fact that there is a horizontal or rotary direction to the telescopic movement in no way constitutes a departure from or a variation in the usually accepted significance or meaning of that term.

JNO. A. BRASHEAR.

Signed and sworn to before me this 4th day of October, 1919.

W. SCOTT NEWCOMER,
Notary Public.

My commission expires Feb. 19, 1921.

NOTE.—"Exhibit 1" above referred to is a Freeman socket.

754 United States Circuit Court of Appeals for the Third Circuit.

WEBER ELECTRIC COMPANY

vs.

E. H. FREEMAN ELECTRIC COMPANY.

On Motion for Rehearing.

Affidavit of Elihu Thomson.

STATE OF MASSACHUSETTS,
County of Essex, ss:

Elihu Thomson being duly sworn, deposes and says that he is 66 years of age and resides at Swampscott, Massachusetts.

That in the seventies he was professor of chemistry and mechanics in the Central High School of Philadelphia; that in 1880 he was one of the founders of, and gave his name to the Thomson-Houston Electric Company, and was an active officer of that Company until 1892 when it united with the Edison General Electric Company to form the General Electric Company, and ever since 1892 he has been Consulting Engineer with the General Electric Company; that he is past president of the American Institute of Electrical Engineers, an honorary member of the British Institution of Electrical Engineers, member of the Corporation of Massachusetts Institute of Technology, member or fellow of a number of other scientific so-
cieties in the United States and England, was United States
755 delegate to the International Congress in 1884 and in 1893;

President of the International Electrical Congress and the Chamber of International Delegates at the Electrical Congress in St. Louis in 1904, and subsequently for three years president of the International Electro-Technical Commission, and has had conferred upon him honorary degrees by Yale University and Harvard University, and was decorated by the French Government as Chevalier and Officer of the Legion of Honor in 1889, received the John Scott medals in 1888 and 1901, and Elliott Cresson medal from the Franklin Institute in 1912 and the Grand Prix in Paris in 1889 and 1900, and the Rumford medal in 1901; first receipt of Edison medal in 1910; also in 1916 the John Fritz medal was awarded to him by the Combined Committees of four National Engineering Societies, and the Hughes medal of the British Royal Society, all for work in the Scientific Electrical and Engineering fields.

That during a period of upwards of fifty years he has been interested in and has had experience with various kinds of telescopic instruments using them frequently, has made a number of special telescopic instruments, instances of which appear in his patents, he had access to and experience with all the scientific and optical instruments of the observatory and physical laboratory of the Philadelphia High School, and believes himself qualified by reason of his experience in the art, from his reading and discussions with

others skilled in that art and the mechanic arts, to state what is the recognized and accepted significance of the word "telescopically" as employed in describing the motion of mechanical parts.

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That in his opinion the word "telescopically" does not involve the back and forth rectilinear motion merely, but, in fact, where there is no rack and pinion to give a separate adjustment and graduate it, it is almost necessary in making a fine adjustment in focusing to twist the eye piece or tube of the telescope, because in that way the fine adjustments are possible; whereas in simply pushing or pulling one not only has to get exactness in the motion each way, but at the same time one is very apt to lose the line of sight in so doing, it being almost impossible to keep the instrument directed, but in twisting, the line of sight may be maintained, while with a gentle push or pull in turning the telescope or tube there is allowed a slight motion which takes place forward or backward. It might also be said that where there are tubes entering one within another (without any means such as a screw or rack for causing them to slide over a very small amount of length) it is quite necessary to twist the part to cause fine adjustment. The physical reason why the push and pull method with twisting is necessary is that the starting friction, being in excess of the friction during movement, causes a jumping or chattering to take place; whereas if the parts are in the act of moving (one over the other, as by twisting) then there is no starting friction concerned, and the adjustment is made with smoothness and ease. The earlier microscopes, in which the adjustments were frictionally made without rack and pinion or equivalent devices, and the earlier telescopes, in which the same thing was true, were adjusted by twisting. The innumerable spy glasses, far exceeding in number the telescopes of higher refinement provided with rack and pinion, were and are made with sliding tubes, which were twisted for focusing. The same is true today, as before.

754

That he has examined the incandescent lamp socket attached hereto and tagged and marked "Exhibit A," said socket having a cap with four rivet heads or studs on the interior of its cylindrical portion and a body shell with three bayonet slots and a round hole in its upper end so that when the cap is applied to the shell three of the rivet heads or studs engage in the bayonet slots and the fourth engages with the round hole, and in his opinion the entering of the shell within the cap and the rotation of the two parts to effect the complete engagement constitute what is recognized as telescopic motion of the two parts, the fact of rotation in no way detracting from the ordinary significance of the word "telescopic."

ELIHU THOMSON.

Signed and Sworn to before me this Tenth day of September, 1919.

JOHN A. McMANUS, JR.,
Notary Public.

NOTE.—"Exhibit A," above referred to is a Freeman socket.

A. WEBER, Sr.

CASE FOR INCANDESCENT ELECTRIC LAMP SOCKETS.

APPLICATION FILED AUG. 4, 1906. RENEWED APR. 9, 1914.

1,136,383 Patented Apr. 20, 1915.

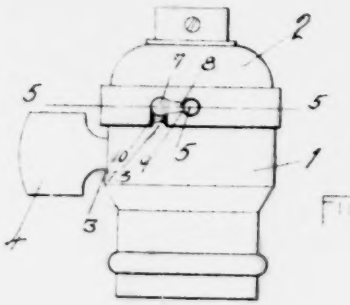


FIG 1

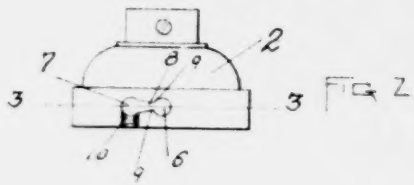


FIG 2

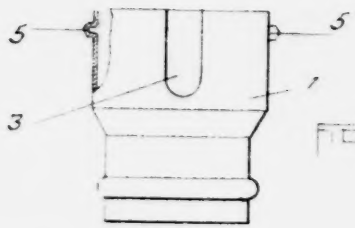


FIG 4

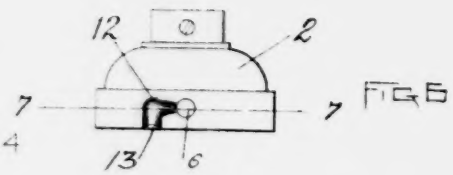


FIG 6

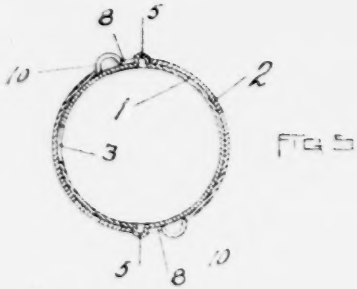


FIG 5

FIG 7

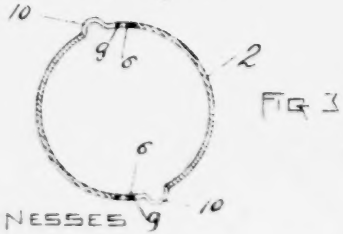


FIG 3

FIG 8

WITNESSES

A. L. Fuller

J. Donsbach.

INVENTOR

August Weber Sr.

By Mosher & Curtis.

Attys.

UNITED STATES PATENT OFFICE.

AUGUST WEBER, SR., OF SCHENECTADY, NEW YORK, ASSIGNOR TO WEBER ELECTRIC COMPANY, OF SCHENECTADY, NEW YORK, A CORPORATION OF NEW YORK.

CASE FOR INCANDESCENT-ELECTRIC-LAMP SOCKETS.

1,136,383. Specification of Letters Patent. Patented Apr. 20, 1915.

Application filed August 4, 1906. Serial No. 329,153. Renewed April 9, 1914. Serial No. 830,793.

To all whom it may concern:

Be it known that I, AUGUST WEBER, Sr., a citizen of the United States, residing at Schenectady, county of Schenectady, and State of New York, have invented certain new and useful Improvements in Cases for Incandescent-Electric-Lamp Sockets, of which the following is a specification.

The invention relates to such improvements and consists of the novel construction and combination of parts hereinafter described and subsequently claimed.

Reference may be had to the accompanying drawings, and the reference characters marked thereon, which form a part of this specification.

Similar characters refer to similar parts in the several figures therein.

Figure 1 of the drawings is a view in side elevation of an incandescent electric lamp socket provided with my improved case. Fig. 2 is a similar view of the cap of the case detached. Fig. 3 is a horizontal cross section of the cap, taken on the broken line 3—3 in Fig. 2. Fig. 4 is a view in side elevation, partly in vertical section, of the shell of the case in a position at right angles to that seen in Fig. 1. Fig. 5 is a horizontal cross section of the case, taken on the broken line 5—5 in Fig. 1. Fig. 6 is a view in side elevation of a modified form of cap. Fig. 7 is a horizontal cross section of the same, taken on the broken line 7—7 in Fig. 6. Fig. 8 is a view similar to Fig. 4, showing a modified form of construction of the shell.

The principal object of my invention is to provide for easily and securely connecting together, and for easily separating when desired, the cap and shell of a sheet-metal case, such for example, as the case of an incandescent electric lamp socket.

Other objects of the invention will appear in connection with the following description.

Referring to the drawings wherein the invention is shown in preferred form, 1, represents the shell or body and, 2, the cap, together comprising the case for an ordinary incandescent electric lamp socket.

The shell and cap are formed of sheet-brass or other sheet-metal and are adapted to be applied, one to the other, telescopically.

For use with a key-socket, the shell is provided with an open slot, 3, through which the shaft of the key, 4, projects. In the keyless type of socket, said slot may be omitted, or it may be retained of full or reduced dimensions to permit the compression of the shell, if desired to facilitate the separation of the interlocking parts of the shell and cap.

The shell is provided, near its larger end, with one or more offsets, 5, which may be either displaced portions of the sheet-metal itself, as shown in Figs. 4 and 5, or studs riveted upon the shell, as shown in Fig. 8. The inner portions of the sides of these offsets are approximately at right angles to the body of the shell, and their outer ends are slightly beveled or tapered to facilitate the guiding of the parts in locking the cap, 2, and unlocking it from the shell. The cap is provided, at a point or points corresponding with the location of the offsets, 5, with an aperture or apertures, 6, cut therein adapted to receive said offset or the respective offsets.

As shown in Figs. 1, 2 and 3, the cap is provided, at one side of the aperture, 6, with a similar aperture, 7, the two apertures being connected by a slot, 8, which tapers gradually from the aperture, 7, to the aperture, 6, whereat it is of less width than the diameter of said aperture and of the offset, 5, leaving the aperture, 6, inclosed by a wall formed by the cut edge of the sheet-metal, extending considerably more than 180 degrees around the circumference of the aperture, whereby, when one of the offsets, 5, is seated in one of the apertures, 6, its removal from said aperture along the slot, 8, is resisted by cut edges of sheet-metal at the points, 9, in the path of perpendicular portions of the offset 5. Leading from the aperture, 7, to the edge of the cap is a groove, 10, formed by outwardly displacing the sheet-metal, as at 10.

In applying the cap to the shell, the groove, 10, is brought into line with an offset, 5, and the parts are interlocked in bayonet fashion, by forcing the cap, first telescopically upon the shell, causing the offset, 5, to traverse the groove, 10, and enter the aperture, 7, and then rotatively moving the cap upon the shell to cause the beveled end of the offset, 5, to travel along the slot, 8, until it enters the aperture 6. The offset 5, being slightly beveled will center itself in the slot, 8, and be guided thereby, at the same time forcing outwardly the sheet metal

(No Model.)

J. O. JOYCE.

TELESCOPIC JACK.

No. 389,475. Patented Sept. 11, 1888.

Fig. 1.

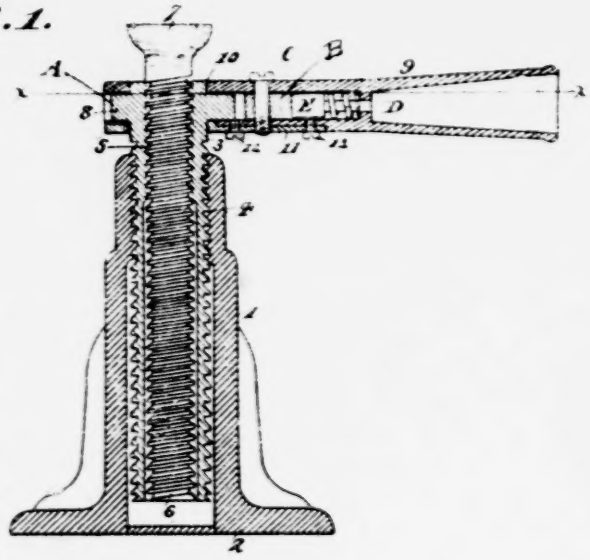
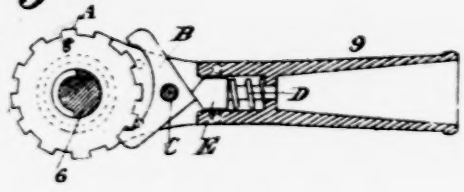


Fig. 2.



Attest
J. Watson Sims
T. Summers

Inventor
Jacob O. Joyce
by Wm. E. Coad
his Attorney

UNITED STATES PATENT OFFICE.

JACOB O. JOYCE, OF DAYTON, OHIO.

TELESCOPIC JACK.

SPECIFICATION forming part of Letters Patent No. 389,475, dated September 11, 1888.

Application filed June 28, 1888. Serial No. 278,475. (No model.)

To all whom it may concern:

Be it known that I, JACOB O. JOYCE, of Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Telescope Jacks, of which the following is a specification.

My invention relates to a means for operating a telescopic screw-jack.

The object of my invention is to provide ready and quick means for operating the nut of the lifting screw, the features of which will be fully set forth in the description of the accompanying drawings, making a part of this specification, in which—

Figure 1 is a central vertical section of my improvement. Fig. 2 is a section on line *x x*, Fig. 1.

1 represents the cylinder or frame of an ordinary telescopic screw-jack.

2 represents the base.

3 represents a cylindrical double threaded screw, the outer thread engaging with the threads 4 formed on the inner periphery of the frame 1, and the inner threads, 5, engaging with the threads formed on the screw-rod 6.

7 represents a cap on the top of the screw-rod 6, on which the load rests.

8 represents a cylindrical journal formed on the outside and the top of the cylindrical double-threaded screw 3. It serves as a support for the swiveling-lever 9, which is journaled thereon. Said lever is bifurcated, one arm of which is provided with a cylindrical opening, 10, through which passes the upper end of the cylindrical screw 3.

11 represents the lower arm, which is made of a separate section and detachably connected to the lever 9 by the screws 12. The other arm, 11, is furnished with a circular orifice, through which the screw 3 passes, so that said arm is journaled on the unthreaded part of the screw directly under the collar 8. In order to drive the said cylindrical screw 3, the outer periphery of this collar is provided with teeth A.

B represents a pawl secured between the forks of the lever by the pivot C.

D represents a coil spring.

E represents a latch, the inner face of which is beveled and abuts against the pallet pawl B. Said pawl B engages alternately with the teeth A, as desired. When it is desired to shift the pallet to have the opposite ends engage with the ratchet-teeth, pressure is applied to the free end, which moves the spring-latch E back and allows the pawl to turn on its center and bring the opposite end into engagement with the ratchet-teeth, when the spring will come back into position and hold it in said engagement. By this means of constructing the lever and the jack the lever is rotated in either direction upon its collar or journal 8, and the pallet-pawl by its engagement with the teeth A drives the cylindrical screw 3 in either direction for which it is set to raise or lower this jack, as desired, a very rapid movement is obtained; and the lever is quickly shifted to raise or lower the screw.

Having described my invention, what I claim is—

The combination, with the internally-threaded cylinder 1 and lifting screw 6, of the internally and externally threaded nut 3, formed integral with the lateral toothed collar 8, and the lever 9, having two arms embracing the collar and journaled, respectively, on the screw above and below the collar, substantially as described.

In testimony whereof I have hereunto set my hand.

JACOB O. JOYCE.

Witnesses:

C. L. BAUMANN,

JOHN L. H. FRANK.

(No Model.)

J. O. JOYCE.

SCREW JACK.

No. 390,605. Patented Oct. 2, 1888.

Fig. 1.

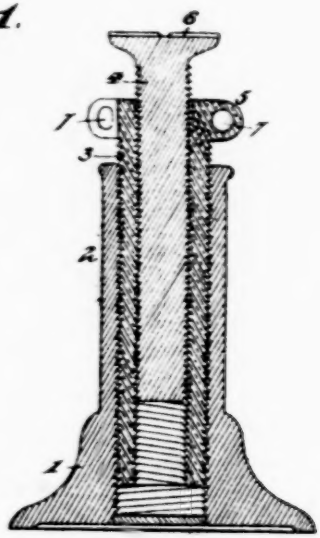


Fig. 2.

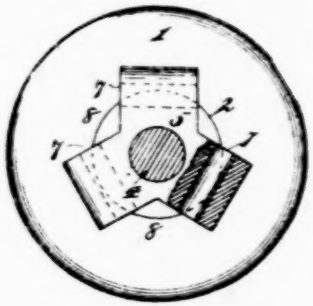


Fig. 3.

Attest
J. Watson Sims
F. Simmons

Inventor
Jacob O. Joyce
by Wood & Boyd
their Attorneys &c.

UNITED STATES PATENT OFFICE.

JACOB O. JOYCE, OF DAYTON, OHIO.

SCREW-JACK.

SPECIFICATION forming part of Letters Patent No. 390,605, dated October 2, 1888.

Application filed May 3, 1888. Serial No. 272,717. (No model.)

To all whom it may concern:

Be it known that I, JACOB O. JOYCE, of Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Screw-Jacks, of which the following is a specification.

My invention relates to that class of jacks commonly called "telescope screw jacks."

The object of my invention is to provide a suitable means for operating the jack in cramped or narrow spaces, where only a short sweep of the lever can be obtained, all of which is to be set forth in the description of the accompanying drawings, making a part of this specification, in which—

Figure 1 is a central vertical section of my improvement. Fig. 2 is a top plan view of the nut, partly in section. Fig. 3 shows a bent lever.

1 represents the base of the jack-frame.

2 represents the cylindrical shell.

3 represents a cylindrical nut having threads on its outer periphery engaging with the threads on the inner periphery of the shell 2, and the threads on the inner periphery of the nut engage with threads on the outer periphery of the screw-rod 4.

5 represents a nut rigidly secured to the cylindrical nut 3. It is provided with screw-threads on its inner periphery, which engage with the threads of the screw-rod 4, so that as the nut 5 is turned both the inner and outer screws serve to elevate the rod 4.

6 represents a cap on top of screw-rod 4, on which the load rests. In order to furnish a strong nut, and one which can be readily worked, I provide the nut head 5 with three horizontal sockets, 7, which are at right angles to the radii of the screw rod and cylindrical nut. These sockets 7 are open at both ends, and between said sockets are recesses or openings 8 to permit the ready engagement of a lever by means of which the nut can be easily turned in a small space, it being obvious that three horizontal sockets open at both ends will afford six points for the engagement of the lever at such intervals that each successive engagement of the lever will enable the nut to be advanced farther.

In Fig. 2 I have shown one of the sockets 7 in section, and the other sockets are indicated by dotted lines. Between each of these sockets are the openings 8, so as to allow the ready engagement of the turning-lever with said sockets.

The operation is as follows: The turning-lever may be inserted in one of the sockets and the nut turned one sixth of a revolution. The lever can be removed and reversed and placed in another one of the sockets. By the use of the bent lever 9 (shown in Fig. 3) the knee 10 can be inserted in any one of the sockets 7, and the nut turned a little way and then taken out and reversed and put in the adjacent end of the next socket, and the nut turned a little more until the lever can be reversed and put in the opposite end of the last-mentioned socket, and so on, and by this means the nut can be turned in a contracted space. This form of nut is compact, strong, and convenient.

My invention differs from prior jacks having a screw raised and lowered by rotating a nut screw-threaded in a shell in that the several sockets extend at right angles to the radii of the nut and screw, whereby both ends of each socket are utilized for the insertion of the lever to turn the nut.

Having described my invention, what I claim to be new is—

A screw-jack comprising the internally-threaded shell 2, the screw-rod 4, and the cylindrical internally and externally threaded nut 3, having a head, 5, provided with three horizontal sockets 7, and intermediate recesses or spaces, 8, said sockets being arranged at right angles to the radii of the nut and open at both ends to permit the engagement therewith of an operating lever, substantially as described.

In testimony whereof I have hereunto set my hand.

JACOB O. JOYCE.

Witnesses:
ROBERT ZAHNER,
J. WATSON SIMS.

(No Model.) 3 Sheets—Sheet 1

W. D. MAYFIELD.

DENTAL OPERATING CHAIR.

No. 385,468. Patented July 3, 1888.

Fig. 1.

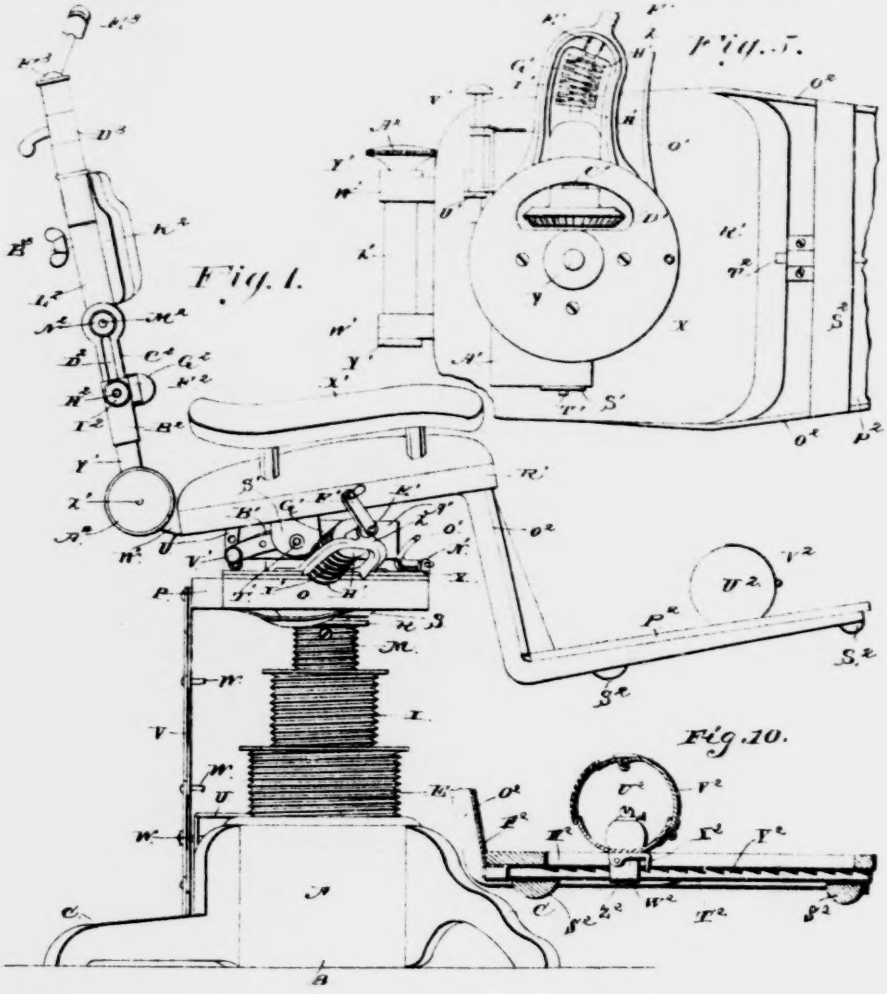
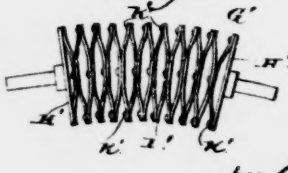


Fig. 7.



Witnesses:
M. E. Fowler.
J. W. Garner.

Inventor.
William D. Mayfield.
by C. A. Snow & Co.
his Attorneys.

(No Model.) 3 Sheets—Sheet 2

W. D. MAYFIELD.

DENTAL OPERATING CHAIR.

No. 385,468. Patented July 3, 1888.

Fig. 1.

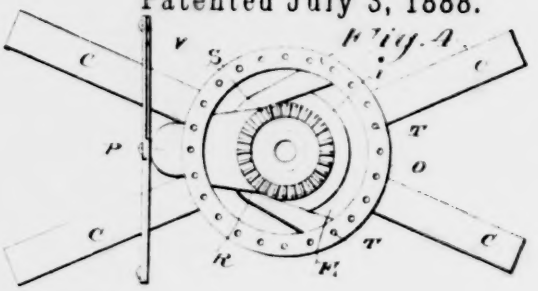


Fig. 2.

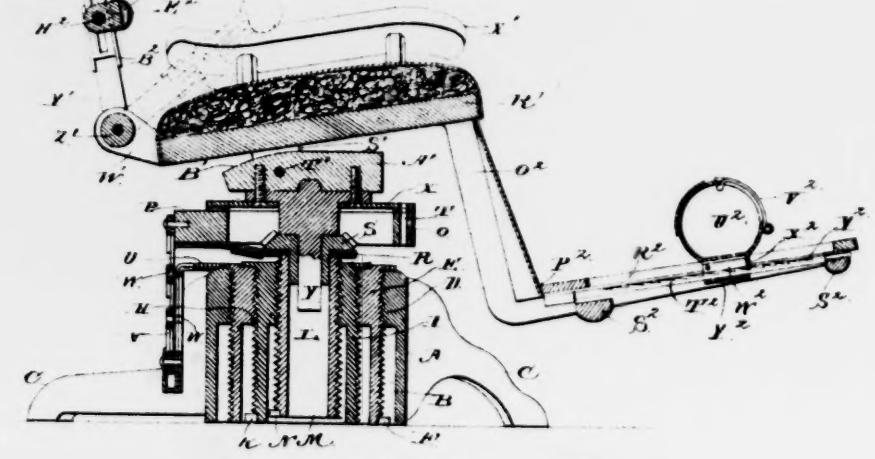
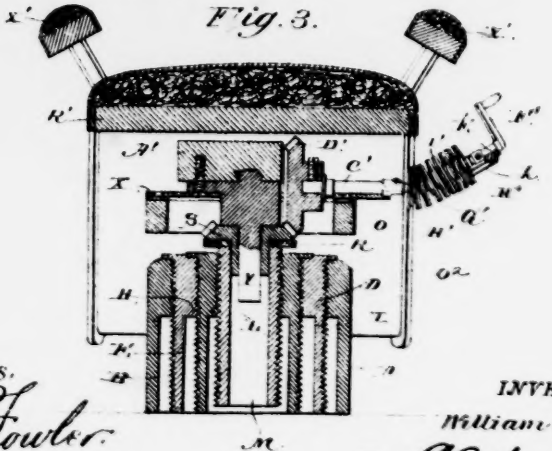


Fig. 3.



WITNESSES.

M. E. Fowler.

J. W. Garner

INVENTOR.

William D. Mayfield.

by C. A. Snow & Co.

his Attorneys.

(No Model.) 3 Sheets—Sheet 3.

W. D. MAYFIELD.

DENTAL OPERATING CHAIR.

No. 385,468. Patented July 3, 1888.

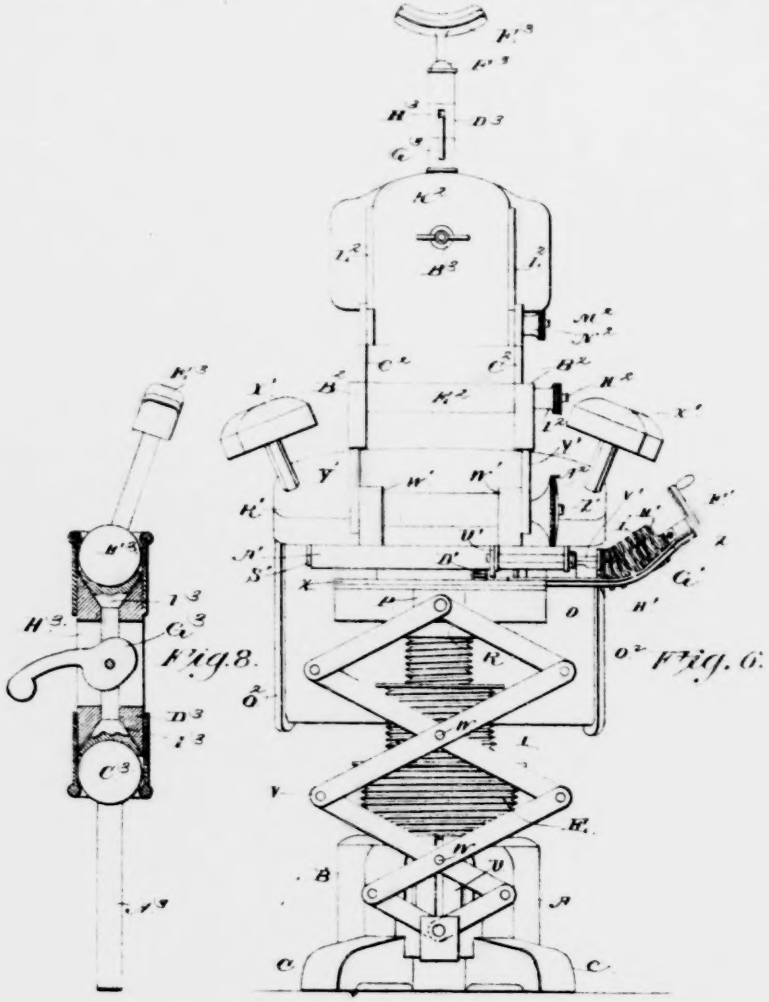
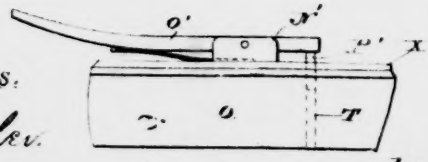


Fig. 8.

Fig. 6.

Fig. 9.



WITNESSES:

M. F. Fowler.

J. W. Garner.

INVENTOR,

William D. Mayfield

by C. A. Snow & Co.,

his Attorneys.

UNITED STATES PATENT OFFICE.

WILLIAM DUDLEY MAYFIELD, OF FORT WORTH, TEXAS, ASSIGNOR TO W. F. MAYFIELD AND J. T. MAYFIELD, OF SAME PLACE.

DENTAL OPERATING-CHAIR.

SPECIFICATION forming part of Letters Patent No. 385,468, dated July 3, 1888.

Application filed August 12, 1887. Serial No. 246,741. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM DUDLEY MAYFIELD, a citizen of the United States, residing at Fort Worth, in the county of Tarrant and State of Texas, have invented a new and useful Improvement in Dental Operating-Chairs, of which the following is a specification.

My invention relats to an improvement in dental operating-chairs; and it consists in the peculiar construction and combination of devices, that will be more fully set forth hereinafter, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of a dental chair embodying my improvements, showing the dental chair elevated. Fig. 2 is a vertical longitudinal sectional view, of the same with the chair lowered. Fig. 3 is a vertical sectional view on the plane at right angles to Fig. 2. Fig. 4 is a top plan view of the supporting-pedestal, the seat and its attachments being removed. Fig. 5 is an inverted plan view of the seat and its attachments. Fig. 6 is a rear elevation of my improved chair. Fig. 7 is a detail view of the coupling G'. Fig. 8 is a detail sectional view of the head-rest. Fig. 9 is a detail view of the spring-actuated detent O'. Fig. 10 is an enlarged vertical longitudinal sectional view of the foot-rest.

A represents the chair base or support, which comprises the vertical cylindrical portion B and the supporting-feet C, which radiate therefrom. In the upper end of the cylinder B is formed an inwardly-extending interiorly-threaded flange, D.

E represents a hollow screw, which engages the threaded flange D, and is adapted to work vertically in the same when the screw is turned, as will be readily understood. The lower end of the screw is provided with an outwardly-projecting stud, F, which is adapted to engage the under side of the flange D when the screw is elevated, and thus limit the outward movement of the screw. In the upper end of the screw E is an inwardly-extending flange, H, which is interiorly threaded and with which engages a vertical hollow screw, I, which is smaller than the screw E, is provided at its lower end with a stop-stud, K, to engage the under side of flange H, and has at its upper end an inwardly-projecting interiorly-threaded flange, L.

M represents a screw which works in the threaded flange L, and is provided at its lower end with a stud, N, to engage flange L.

O represents a supporting-ring, which is provided on one side with an outwardly-projecting bracket, P.

R represents a bottom plate, which is arranged under the ring, and the center portion of which is swiveled to the upper end of the screw M. The said screw has a horizontal wheel, S, rigidly affixed to its upper end. In the upper side of the supporting-ring are a series of openings, T, which are arranged at suitable regular distances apart.

U represents a vertically-slotted plate, which is secured to the upper portions of the supporting-feet C on the rear side of the base A, and has its upper end turned forward and secured to the upper edge of the cylindrical portion of the base.

V represents a lazy-tongs, the lower end of which is pivotally connected to the lower plate, U, and the upper end of which is pivotally connected to the upper end of the bracket P. The bolts W form the fulcrums on which the levers or arms of the lazy-tongs are adapted to work vertically in the open slot in the guide-plate U, and thereby prevent the ring O from turning on the upper end of the elevating screws when the latter are rotated.

X represents a circular plate, from the center of which depends a spindle, Y, that enters the central opening in the screw M. From one side of the plate X extends a curved bracket-arm, Z.

A' represents a platform or supporting-base, which is arranged on the upper side of the plate X, and the rear side of which is beveled or inclined on its upper side, as at B'.

C' represents a horizontal shaft, which is journaled in a suitable bearing-box on the upper side of the plate X, and to the inner end of this shaft is rigidly secured a miter-wheel, D', which is adapted to engage the wheel S on the upper end of screw M.

E' represents a short shaft, which is journaled in a box on the upturned curved outer

D² represents a cylindrical sleeve, which is provided at its lower end with a socket to receive the ball C'.

E' represents a head rest of the shape shown, which is provided on its under side with a ball, F', that fits in a socket in the upper end of the sleeve. An eccentric-cam, G', is journaled in a central opening, H', projecting from one side thereof.

I' represents a pair of clamps the outer ends of which bear against the balls in the sockets at the ends of the sleeve, and are provided with cups adapted to the contour of the said balls, and the inner ends of which bear against opposite edges of the cam. When the latter is turned in one direction, the clamps are caused to recede from the balls, and when the same is turned in a contrary direction the clamps are adapted to bear against the balls and thereby secure the rod A' and the head-rest to the slide or neck portion at any desired angle, as will be readily understood.

The operation of my invention is as follows: In order to raise or lower the chair, the shaft C' is turned by means of this shaft, so as to cause the wheel D' to rotate, and by engaging with the wheel S impart rotary motion to the screws. When the seat is lowered to the position shown in Fig. 2, the hollow screws are fitted one within the other, and when the seat is raised to the position shown in Fig. 1 the screws are extended one above the other, the said screws being telescoped. In order to turn the chair-seat on its supporting pedestal, it is only necessary to bear down upon the outer end of the lever N', so as to cause the detent at the inner end thereof to disengage the opening R in the upper side of the ring O. The chair-seat may be tilted to any desired angle, inasmuch as it is pivoted on the supporting-base A', by disengaging the detent V' from the arm U'. The said detent and arm serve to support the chair seat at any desired inclination when adjusted. The back by being provided with the arms Y' and the sliding extensible arms C² is adapted to be adjusted to any desired length, and may be secured at any desired angle by reason of the pivotal bolt-rods and their clamping-nuts, as hereinbefore described. When the patient is a child, the arms Y' are first folded down upon the rear side of the chair-seat, and the back board is then adjusted to any desired position upon the chair-seat, as shown in dotted lines in Fig. 2.

Having thus described my invention, I claim—

1. The combination of the base A, having the telescopic nested elevating-screws, the support O, having the arm R swiveled to the upper end of the inner screw, the gear-wheel S, rigidly secured to the upper end of the said inner screw, the platform A', having the depending spindle Y swiveled in the upper end of the inner screw, the chair-seat supported on the platform, and the crank shaft journaled to the platform and having the wheel D' meshing with the wheel S, and the extensible devices connecting the support O to the base, substantially as described.

2. The combination of the base A, having the vertically-slotted guide-plate attached thereto, the telescopic elevating-screws supported on the base, the support swiveled to the upper end of the elevating screws, and the lazy-tongs connecting the base to the support, having the fulcrum-bolts engaging the slot in the guide plate, substantially as described.

3. The combination, in a chair, of the elevating-screws, the support O, swiveled to the upper end thereof and having the series of openings T, and the chair seat swiveled to the upper end of the screw and provided with a detent to engage the openings T, substantially as described.

4. The combination of the base A, having the telescopic elevating-screws, the support O, having the arm R swiveled to the upper end of the inner screw, the platform A', having the depending spindle Y swiveled in the said inner screw, whereby said platform is adapted to turn on said support, the crank-shaft journaled to the platform and geared to the elevating-screws, the detent T', secured to the platform, and the chair-seat hinged or pivoted to the platform, adapted to tilt or incline thereon, and provided with the arm U', adapted to be engaged by the detent, substantially as described.

5. The combination, in a chair, of the foot-board having the longitudinal slot, the rod arranged under the said slot, the foot-rest arranged on the foot-board, and the clip sliding on the rod and attached to the foot-rest, whereby the latter may be longitudinally adjusted on the foot-board, substantially as described.

6. The combination, in a chair, of the foot-board having the longitudinal slot the rod arranged under the said slot and provided with ratchet teeth on its upper side, the foot-rest arranged on the foot-board and having the depending ear extending through the slot, and provided with a point adapted to engage the teeth of the rod, and the clip sliding on the said rod, and to which the depending ear of the foot rest is pivoted, substantially as described.

7. The combination of the chair-seat having the rearward extending brackets W', the arms Y', pivoted to the said brackets and having the guide flanges B², the arms C³, having the slots D² and fitted against the inner sides of arms Y', and the rod H², extending through the slots D² and the arms Y', and having the clamping-nut and the back pivotally connected to the upper ends of the arms C³, substantially as described.

8. The combination, with a pair of elevating-screws, the miter wheel S, attached to the inner screw, the support swiveled to the elevating-screw, the chair-seat attached to the support and having the curved arm projecting from one side, the shaft-sections C' and E', journaled to the curved arms and arranged at

No. 804,363. PATENTED NOV. 14, 1905.

W. YOULTEN.

TELESCOPIC SIGHT FOR RIFLES AND OTHER ARMS.

APPLICATION FILED MAY 9, 1904.

2 SHEETS—SHEET 1.

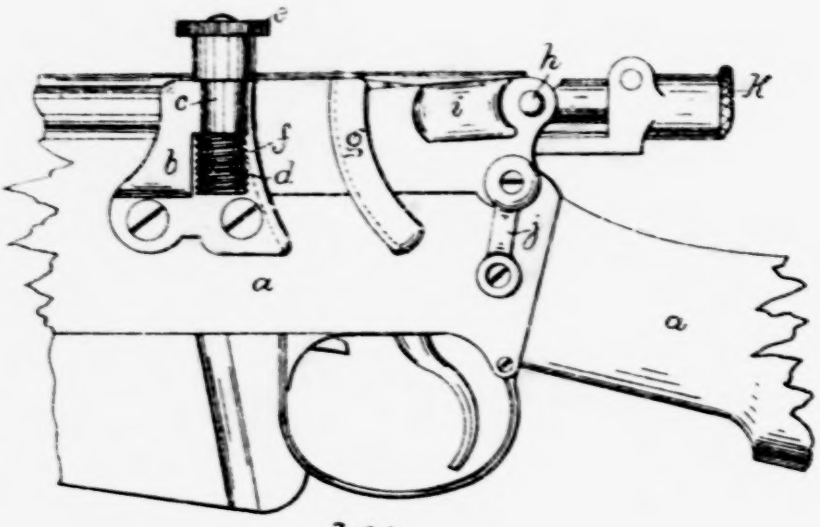


Fig. 1.

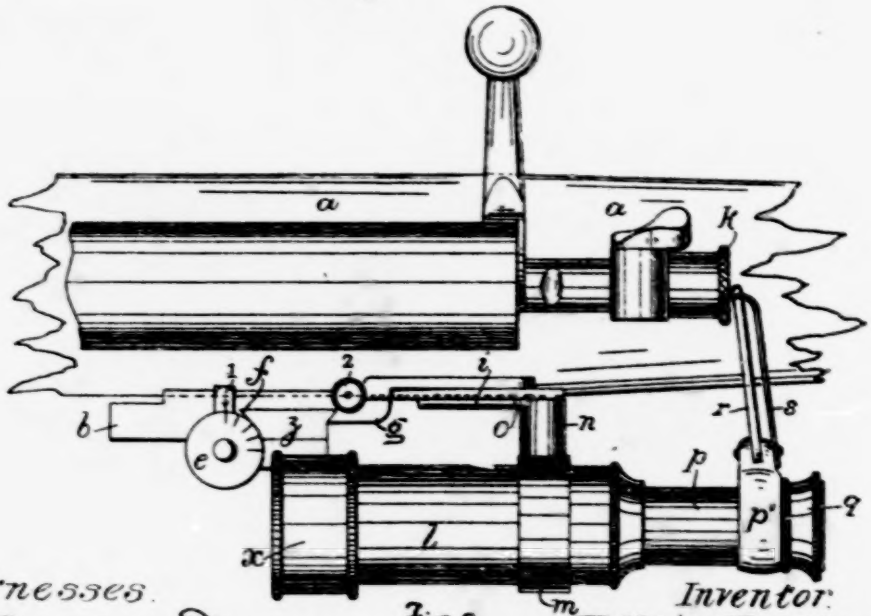


Fig. 2.

Witnesses.

W. Mad. Durall

Geo. H. Bryce

Inventor.

William Youlten

By Wilkinson & Fisher

Attorneys.

No. 804,363. PATENTED NOV. 14, 1905.

W. YOULTEN.

TELESCOPIC SIGHT FOR RIFLES AND OTHER ARMS.

APPLICATION FILED MAY 9, 1904.

2 SHEETS—SHEET 2.

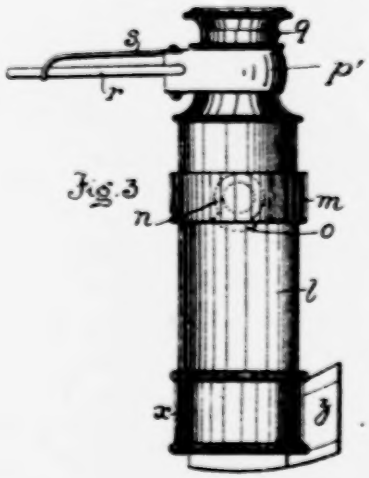


Fig. 3.

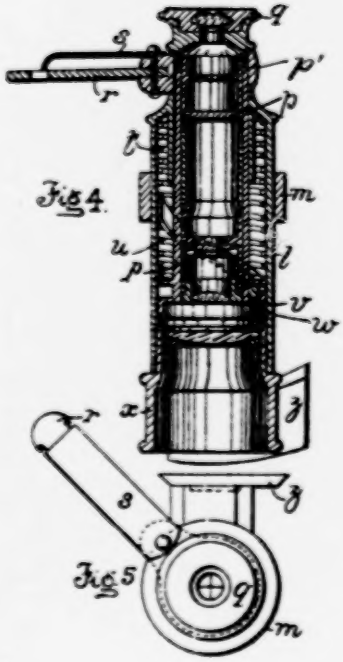


Fig. 4.

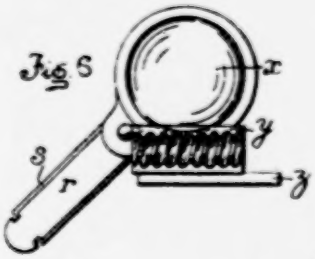


Fig. 5.

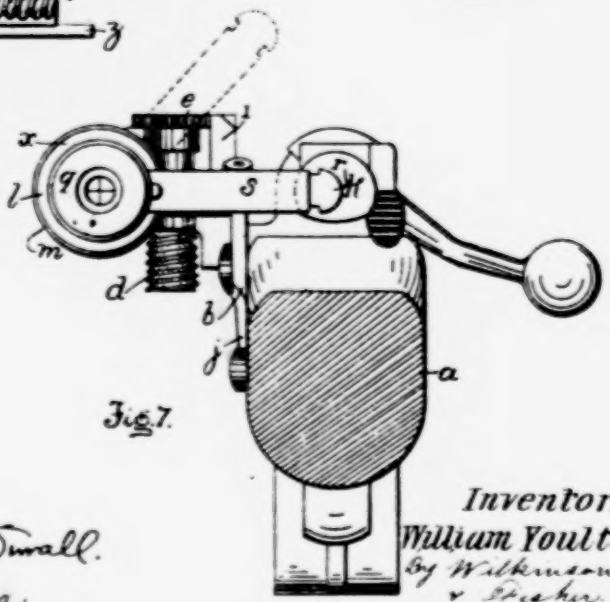


Fig. 7.

Witnesses.
W. Mac. Dunall.
Geo. H. Bryce.

Inventor:
William Youlten.
By Wilkinson & Parker
Attorneys.

UNITED STATES PATENT OFFICE.

WILLIAM YOULTEN, OF WESTMINSTER, ENGLAND.

TELESCOPIC SIGHT FOR RIFLES AND OTHER ARMS.

No. 804,363. Specification of Letters Patent. Patented Nov. 14, 1905.

Application filed May 9, 1904. Serial No. 207,119.

To all whom it may concern:

Be it known that I, WILLIAM YOULTEN, a subject of the King of England, residing at 159 Victoria street, Westminster, in the county of London, England, have invented certain new and useful Improvements in Telescopic Sights for Rifles and other Arms; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The object of this invention is a telescopic sight which will insure the safety of the marksman's eye at the moment of recoil of the weapon. The said telescopic sight is, moreover, so constructed that it may be rapidly attached to and detached from the rifle or other weapon and in such a way that any existing ordinary sights on a rifle, for instance, may be used as an alternative to or in place of the sighting system special to the telescope.

A further object is to provide an attachment or device of this character which will be simple, strong and durable, inexpensive, and well adapted to the use for which it is designed.

To the accomplishment of these objects and such others as may hereinafter appear the invention comprises the novel construction and combinations of parts hereinafter described, and particularly pointed out in the appended claims, reference being had to the accompanying drawings, forming a part hereof, which show one way of applying my invention to a rifle, the same reference characters designating like parts throughout the several views, in which—

Figure 1 shows elevation of portion of a rifle with the telescopic sight detached in order to show the means which I provide for attaching the said sight to the rifle. Fig. 2 shows plan of the telescopic sight attached and in position ready for firing. Fig. 3 shows the telescopic sight detached, but in position ready for attachment to the rifle. Fig. 4 shows a vertical section of Fig. 3. Fig. 5 shows outside plan of the telescope with attachment. Fig. 6 shows an inverted plan of same. Fig. 7 shows end view of rifle with telescopic sight attached, the stock of the rifle being broken away behind the sight, and in this figure the position assumed by the sliding portion of the sight when the rifle is discharged is shown in dotted lines.

a shows the stock of the rifle.

b is a plate provided with a tubular piece *c*, carrying a screw *d*, provided with a milled head *e*, upon the surface of which head graduations are marked to indicate elevations, as hereinafter described. The screw *d* is so formed that it rotates in the tubular piece *c* without screwing out of same. The plate *b* is so made that the parts *f* and *g* form a dovetailed groove the edges of which are concentric with respect to the pin *h*, which acts as a pivot for the telescope.

i is a piece projecting above the surface of the plate *b* and so cut away as to form between itself and the pin *h* a groove, which is enlarged at the part nearer to the surface of the plate for the purpose hereinafter described.

j is a link for rendering the attachment of the plate *b* to the rifle more secure.

k is the back of the ordinary bolt.

l shows the telescope.

m is a band attached to the telescope *l* and provided with a tubular piece *n* of a size suitable to take over the pin *h*, such tubular piece *n* being provided with a portion of a circular flange *o*, which takes into the groove formed between the pin *h* and the raised portion *i* of the plate *b*.

p is the sliding tube of the telescope, carrying the eyepiece *q*. Over the sliding tube *p* is fastened, preferably by frictional engagement therewith, as shown by Figs. 3 and 4, a collar *p'*, carrying a tail *r*, formed, preferably, of a thin strip of metal, with a spring *s* attached to its back, thus exerting a forward pressure thereon.

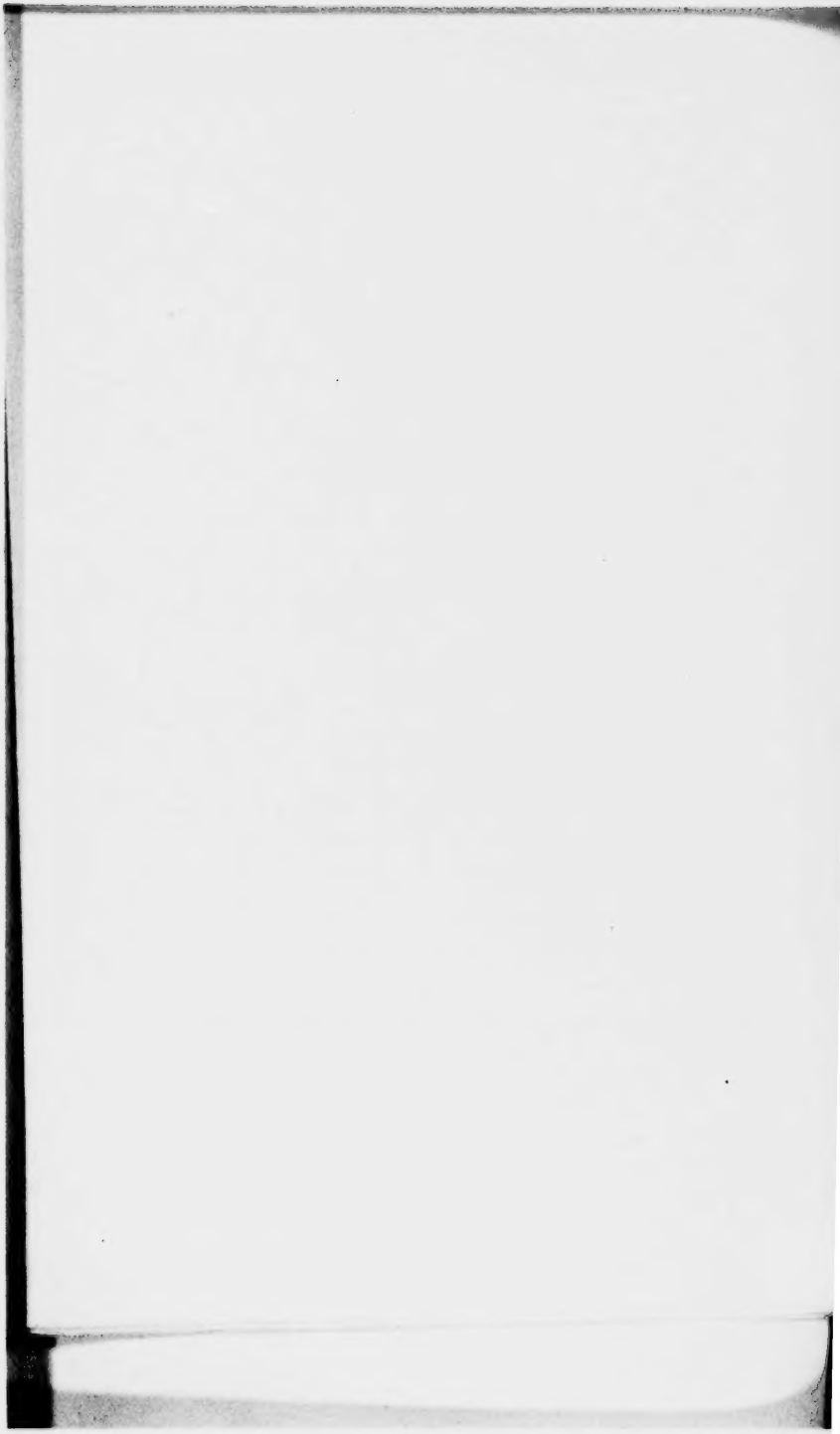
t is a secondary tube for keeping the sliding tube *p* in position by providing a satisfactory bearing-surface for the said tube to pass through.

u is a helical spring for drawing the sliding tube *p* back into the principal tube *l* of the telescope.

v is a plate fixed spirally on the inside of the tube *l*, and *w* is a piece attached to the inner end of the sliding tube *p* and so cut away that it takes over the edges of the spiral piece *v*.

x is a band attached to the main tube *l* of the telescope near the object-glass. The band *x* has attached to it a piece *y*, provided with a portion of a screw-thread cut on its surface to engage with the screw *d*.

z is a plate so formed that it will slide in the



773 In the United States Circuit Court of Appeals for the Third Circuit, October Term, 1919.

No. 2440 (List No. 22).

E. H. FREEMAN ELECTRIC CO., Appellant,

vs.

WEBER ELECTRIC CO., Appellee.

Sur Petition for Rehearing.

And now, to wit, December 13, 1919, after due consideration, the petition for re-hearing in the above entitled case, is hereby refused.

Per CURIAM.

Endorsements: 2440. Order Refusing Petition for Rehearing. Received & Filed Dec. 13, 1919. Saunders Lewis, Jr., Clerk.

774 UNITED STATES OF AMERICA, *ss:*

[Seal United States Circuit Court of Appeals, Third Circuit.]

The President of the United States of America to the Honorable the Judges of the District Court of the United States for the District of New Jersey, Greeting:

Whereas, lately in the District Court of the United States for the District of New Jersey, before you or some of you, in a cause between E. H. Freeman Electric Co. (defendant below) Appellant, and Weber Electric Co. (plaintiff below) Appellee, a decree was entered in the said District Court on December twenty-three, 1918, which decree is of record in the office of the Clerk of said District Court, to which reference is hereby made, and the same is hereby expressly made a part hereof.

775 As by the inspection of the transcript of the record of the said District Court, which was brought into the United States Circuit Court of Appeals for the Third Circuit by virtue of an appeal agreeably to the Act of Congress, in such case made and provided, more fully and at large appears.

776 And Whereas, in the term of March, in the year of our Lord one thousand nine hundred and nineteen, the said cause came on to be heard before the said United States Circuit Court of Appeals on the said transcript of record and was argued by counsel:

On Consideration Whereof, it is now here ordered, adjudged and decreed by this Court, that the decree of the said District Court in this cause be, and the same is hereby reversed on the issue of infringement as to claims 1 and 4 of Letters Patent No. 743,206, with instructions to the District Court to dismiss the Bill; with costs to the defendant in this Court and the Court below; and that the said Ap-

pellant, E. H. Freeman Electric Co., recover against the said Appellee, Weber Electric Co., in the sum of forty-two dollars and twenty cents ($42.20) for its costs herein expended and have execution therefor.

Philadelphia, August 13, 1919.

777 You, therefore, are hereby commanded that such execution and further proceedings be had in said cause, as according to right and justice, and the laws of the United States, ought to be had, the said appeal notwithstanding.

Witness, the Honorable Edward D. White, Chief Justice of the Supreme Court of the United States, at Philadelphia, the seventeenth day of December, in the year of our Lord one thousand nine hundred and nineteen (1919).

Costs of E. H. Freeman Electric Co.:

Clerk	$22.20
Printing Record, 8	
Attorney	$20.00
	$42.20

SAUNDERS LEWIS, Jr.,
Clerk of the U. S. Circuit Court of Appeals, Third Circuit.

[Endorsed:] Original File No. 2440. U. S. Circuit Court of Appeals, Third Circuit. No. 22, March Term, 1919. E. H. Freeman Electric Co., Appellant, vs. Weber Electric Co., Appellee. Mandate. Received & Filed Dec. 17, 1919. Saunders Lewis, Jr., Clerk.

778 UNITED STATES OF AMERICA, *ss:*

The President of the United States of America to the Honorable the Judges of the District Court of the United States for the District of New Jersey, Greeting:

Whereas, lately in the District Court of the United States for the District of New Jersey, before you or some of you, in a cause between Weber Electric Company (plaintiff below) Appellant, and E. H. Freeman Electric Company (defendant below) Appellee, a decree was entered in the said District Court on December twenty-three, 1918, which decree is of record in the office of the Clerk of said District Court, to which reference is hereby made, and the same is hereby expressly made a part hereof.

779 As by the inspection of the transcript of the record of the said District Court, which was brought into the United States Circuit Court of Appeals for the Third Circuit by virtue of an appeal agreeably to the Act of Congress, in such case made and provided, more fully and at large appears.

780 And Whereas, in the term of March, in the year of our Lord one thousand nine hundred and nineteen, the said cause came on to be heard before the said United States Circuit Court

of Appeals on the said transcript of record and was argued by counsel:

On consideration whereof, it is now here ordered, adjudged and decreed by this Court, that the decree of the said District Court in this cause be, and the same is hereby affirmed with costs, in so far as it applies to claims 2 and 3 of Letters Patent No. 743,205; and that the said Appellee, E. H. Freeman Electric Co., recover against the said Appellant, Weber Electric Co., in the sum of twenty dollars ($20) for its costs herein expended and have execution therefor.

Philadelphia, August 13, 1919.

781 You, therefore, are hereby commanded that such execution and further proceedings be had in said cause, as according to right and justice, and the laws of the United States, ought to be had, the said appeal notwithstanding.

Witness, the Honorable Edward D. White, Chief Justice of the Supreme Court of the United States, at Philadelphia, the seventeenth day of December, in the year of our Lord one thousand nine hundred and nineteen (1919).

Costs of E. H. Freeman Electric Co.:

Clerk.....	$.....
Printing Record..	$.....
Attorney.....	$20.00
	$20.00

SAUNDERS LEWIS, JR.,
Clerk of the U. S. Circuit Court of Appeals, Third Circuit.

[Endorsed:] Original File No. 2441. U. S. Circuit Court of Appeals, Third Circuit. No. 23, March Term, 1919. Weber Electric Co., Appellant, vs. Freeman Electric Co., Appellee. Copy of Mandate. Received & Filed Dec. 17, 1919. Saunders Lewis, Jr., Clerk.

782 UNITED STATES OF AMERICA,
Eastern District of Pennsylvania,
Third Judicial Circuit, set:

I, Saunders Lewis, Jr., Clerk of the United States Circuit Court of Appeals for the Third Circuit, do hereby Certify the foregoing to be a true and faithful copy of the original record and proceedings in this Court in the case of: E. H. Freeman Electric Company, Defendant-Appellant, vs. Weber Electric Company, Plaintiff-Appellee, on file, and now remaining among the records of the said Court, in my office.

In Testimony Whereof, I have hereunto subscribed my name and affixed the seal of the said Court, at Philadelphia, this sixteenth day of February, in the year of our Lord one thousand nine hundred and

twenty and of the Independence of the United States the one hundred and forty-fourth.

[Seal of United States Circuit Court of Appeals, Third Circuit.]

SAUNDERS LEWIS, JR.,
Clerk of the U. S. Circuit Court of Appeals, Third Circuit.

783 UNITED STATES OF AMERICA, *ss:*

[Seal of the Supreme Court of the United States.]

The President of the United States of America to the Honorable the Judges of the United States Circuit Court of Appeals for the Third Circuit, Greeting:

Being informed that there is now pending before you a suit in which E. H. Freeman Electric Company is appellant and cross-appellee, and Weber Electric Company is appellee and cross-appellant, which suit was removed into the said Circuit Court of Appeals by virtue of an appeal and cross-appeal from the District Court of the United States for the District of New Jersey, and we, being willing for certain reasons that the said cause and the record and proceedings therein should be certified by the said Circuit Court of Appeals and removed into the Supreme Court of the United States,

Do hereby command you that you send without delay to
784 the said Supreme Court, as aforesaid, the record and proceedings in said cause, so that the said Supreme Court may act thereon as of right and according to law ought to be done.

Witness the Honorable Edward D. White, Chief Justice of the United States, the sixth day of May, in the year of our Lord one thousand nine hundred and twenty.

JAMES D. MAHER,
Clerk of the Supreme Court of the United States.

[Endorsed:] File No. 27,544. Supreme Court of the United States. No. 789, October Term, 1919. Weber Electric Company vs. E. H. Freeman Electric Company. Writ of Certiorari.

785 United States Circuit Court of Appeals for the Third Circuit.

WEBER ELECTRIC COMPANY, Plaintiff-Appellee, Cross-Appellant,

vs.

E. H. FREEMAN ELECTRIC COMPANY, Defendant-Appellant, Cross-Appellee.

Stipulation.

It is hereby stipulated and agreed by and between the respective parties that the transcript of record filed with the Clerk of the Su

preme Court of the United States on the petition for writ of certiorari be accepted as the return to the writ of certiorari filed herewith.

FRANK C. CURTIS,
Counsel for Plaintiff-Appellee.
D. P. WOLHAUPTER,
Counsel for Defendant-Appellant.

Endorsements: 2440. Stipulation of Counsel for Return to Writ of Certiorari Received & Filed May 12, 1920. Saunders Lewis, Jr., Clerk.

786 UNITED STATES OF AMERICA,
Eastern District of Pennsylvania,
Third Judicial Circuit, set:

I, Saunders Lewis, Jr., Clerk of the United States Circuit Court of Appeals for the Third Circuit, do hereby Certify the foregoing to be a true and faithful copy of the original Stipulation of Counsel for Return to Writ of Certiorari filed in this Court in the cases of Weber Electric Company, Plaintiff-Appellee, Cross-Appellant, vs. E. H. Freeman Electric Company, Defendant-Appellant, Cross-Appellee, on file, and now remaining among the records of the said Court, in my office.

In Testimony Whereof, I have hereunto subscribed my name and affixed the seal of the said Court, at Philadelphia, this 12th day of May, in the year of our Lord one thousand nine hundred and twenty and of the Independence of the United States the one hundred and forty-fourth.

[Seal United States Circuit Court of Appeals, Third Circuit.]

SAUNDERS LEWIS, JR.,
Clerk of the U. S. Circuit Court of Appeals, Third Circuit.

787 [Endorsed:] File No. 27,544. Supreme Court U. S. October Term, 1919. Term No. 789. Weber Electric Co., petitioner, vs. E. H. Freeman Electric Co. Writ of certiorari and return. Filed May 13, 1920.